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REPORT ON ACTIVITIES AND ACHIEVEMENTS
OF THE SOUTHERN UTILIZATION RESEARCH AND DEVELOPMENT DIVISION
FOR CALENDAR YEAR 1959

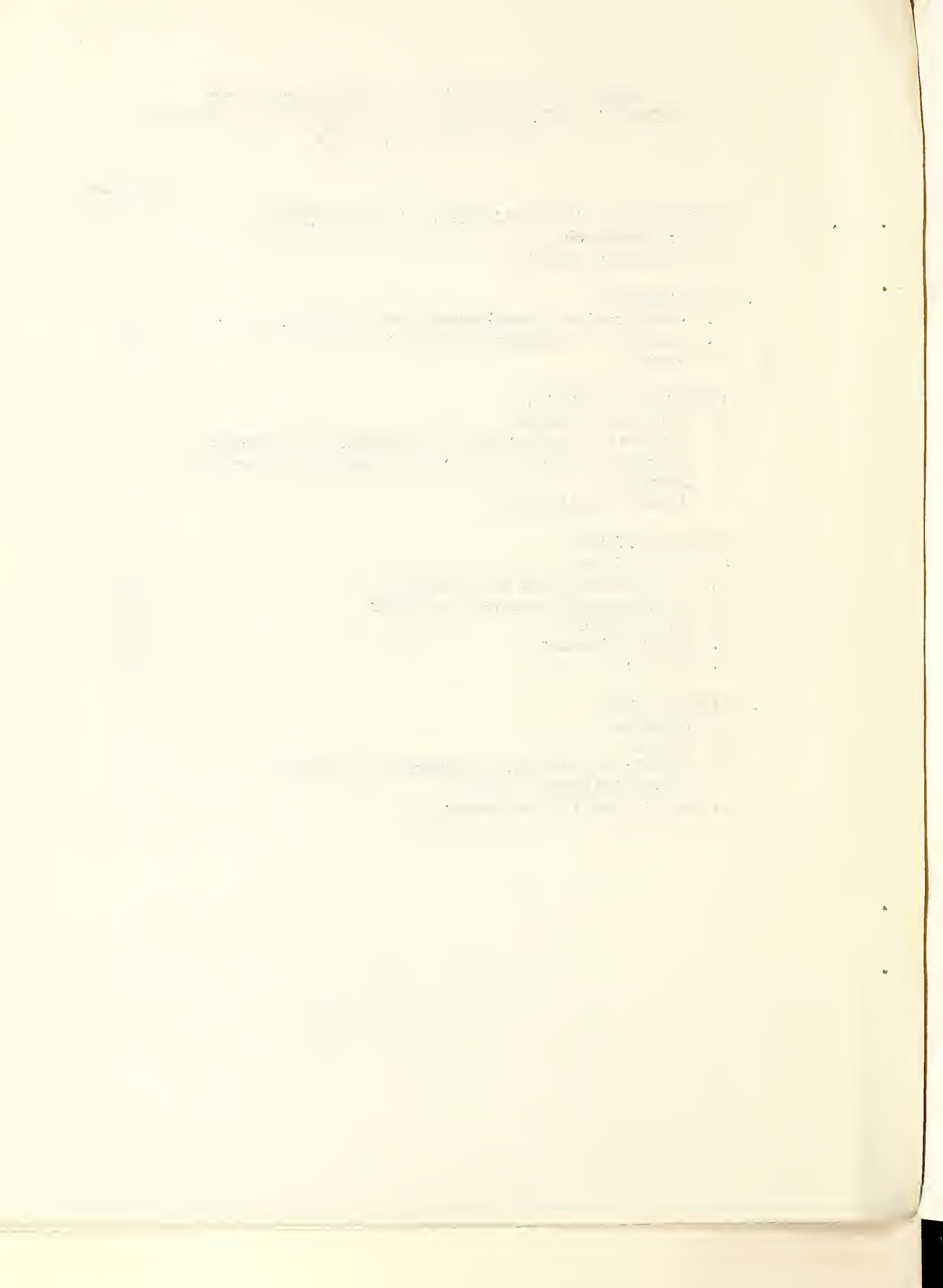
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REPORT ON ACTIVITIES AND ACHIEVEMENTS OF THE
SOUTHERN UTILIZATION RESEARCH AND DEVELOPMENT DIVISION
FOR CALENDAR YEAR 1959

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1. SUMMARY OF CY 1959 ACTIVITIES AND ACHIEVEMENTS

a. Introduction

In the introduction to a report of activities for 1959, a summary of some of the events and accomplishments of the year seems appropriate. It may surprise some of us to learn how much was accomplished, and how wide was the scope of our activities. We should all be encouraged to even greater effort in 1960 to exceed the 1959 level of accomplishment.

Publications and patents are an important gauge of research progress, and in 1959 there were 168 papers approved for publication, 25 patents granted, and 24 patent applications filed. This represents an average of one publication for about 1.3 professional man years, a good record.

A total of 77 press releases, presenting SU research to the public, were issued, of which 17 were USDA releases, and 60 were issued here. Research activities were also presented in 29 television and radio programs, three on national networks, and Agricultural Research carried 10 stories describing our research developments. These papers, patents, and various publications described many important research findings, some of which have already been put to use for Southern agriculture and our common good.

Research proposals submitted for review totalled 131; 93 of these were on cotton, 10 on cottonseed, 2 on naval stores, 14 on oilseeds, 2 on vegetables, and 10 on more than one commodity.

Because the strength of any organization lies primarily in the people who work in it, emphasis on matters pertaining directly to personnel seems appropriate. In 1959, two members of the SU staff, Charles A. Fort and Ray C. Young, completed 30 years with the Department. Recognition for 20 years of service went to James B. Davies and Ray V. Lawrence. All four of these workers are still with SU and continuing the splendid service they have given over the years. Ten-year awards were presented to twelve members of the Division staff, including: Herbert R. Copeland, Theodore D. Doiron, Leonard L. Donaldson, Robert N. Ford, Sara P. Fore, Gloria A. Gautreaux, Stanley P. Koltun, Oscar J. McMillan, Jacob C. Minor, Thomas S. Stephens, John D. Tallant, and Robert K. Willich.

In 1959, USDA Honor Awards for Superior Service were conferred jointly on John J. Brown and Louis A. Fiori for research in textile engineering that has increased utilization of cotton through the recognition and application of fiber fineness in improving product quality, processing efficiency, and merchandising practices, and,

- ① Mary L. Rollins and Verne W. Tripp, for brilliant pioneering research leading to improved textile processing through the development of significant basic knowledge of the microscopic and sub-microscopic structure and behavior of cotton.

Length of Service and the USDA Honor Awards are not the only recognition which USDA gives its employees. Last year 8 members of the staff received Certificates of Merit for sustained outstanding performance of their duties. These were Mrs. Barbara C. Austin, of the Naval Stores Station at Olustee; Kenneth M. Decossas, Inez V. deGruy, Mary Alice B. Jones, Madeline L. Capbern, Alice S. Gremillion, Pieter Harbrink, and Anna T. Moore.

The Suggestion and Incentive Awards Programs have aroused a great deal of interest here. Last year 18 employees received awards ranging from \$10 to \$50 each, totalling \$390.00. These were Bethlehem K. Andrews, Albert J. Crovetto, Chester H. Haydel, Marie A. Jones, Nealy C. McConnell, Trinidad Mares, Tommie Newman (resigned), Janice I. Oertel, Clotilde H. Oubre, E. L. Patton, Lida L. Placek, Sterling J. Raffray, J. David Reid (2), Mary L. Rollins, Rita T. Rushing, Julia M. Sloan, Hugh B. Summers, and Heber W. Weller, Jr. (2).

Among the many and varied activities during the year, we might also recall that a total of 158 employees participated in 16 special training courses designed to improve their efficiency in their work. This was in addition to the large number who are taking a variety of regular college courses, and 20 who completed the Red Cross First Aid Course.

Among the outside honors which came to members of the staff during the year, alumni of Westminster College conferred their 1959 Alumni Achievement Award upon Turner H. Hopper. The Seventh Annual Glycerine Research Award went to Drs. L. A. Goldblatt and R. S. McKinney for their outstanding work on tung oil monoglycerides. Dr. A. M. Altschul has been recognized in several ways for his work on nutrition, especially the proteins. He was invited by the National Academy of Sciences to become a member of the Committee on Food Stability of their Advisory Board on Quartermaster Research and Development; under the auspices of the World Health Organization he made a tour of Guatemala, El Salvador, and Honduras, and conferred with members of research institutions on the use of seed proteins in human diets. Later he spent two months in Israel under the auspices of the Food and Agriculture Organization of the United Nations, assisting scientists in their search for ways to improve the nation's diet through increased use of available proteins.

Dr. C. H. Fisher, Director, was the recipient of the Herty Medal, awarded by the Georgia Section of the American Chemical Society in recognition of contributions made toward scientific advancement of the South.

A review of 1959 would not be complete without mention of several important events.

We received a special appropriation for construction of a pilot plant so as to produce instant sweetpotato flakes on a larger scale. Construction began late in 1959. This pilot plant will permit study of processing methods as a

preliminary to commercial production, and allow evaluation of the product, and more extended storage studies.

During the year we were honored with a visit by Congressman Jamie L. Whitten, Second District, Mississippi. Mr. Whitten, a member of the Appropriations Committee, has always been greatly interested in American agriculture. While here he saw some of our more recent research accomplishments in wash-wear, stretchable yarns, tailor-made fats, and developments in textile cleaning equipment.

b. Committee Reports

Southern Utilization Research and Development Division committees are appointed by and report to the Director of Division. The general nature and purpose of each committee is indicated by the title. These committees give valuable assistance to the Director in carrying out the technical and administrative functions of the Division. Reports for the following committees are included in this section:

Building, Grounds and
Space Committee

G. E. Goheen, Chairman
J. B. Davies
F. M. Smith

Objectives and Functions

To recommend to the Director of the Division for approval or disapproval alterations in buildings and permanent equipment attached thereto, space modifications or reassignments of space, and improvement and landscaping of the grounds.

Defense Planning

E. L. Patton, Chairman
E. A. Gastrock
G. E. Goheen
C. L. Hoffpauir

To serve as Laboratory representatives in ARS defense planning program.

Employee Advisory Council

A. S. Roseman, Chairman
J. R. Struber
W. B. Carney
C. J. Conner
J. M. Dechary
J. D. Tallant
S. P. Koltun
P. A. Accardo
M. M. Grawl
E. J. Roberts
L. S. Lee
J. T. Jackson

Article II of the by-laws states, "The purpose of the Employee Advisory Council is to serve in an advisory capacity to the Director on matters of general interest to and concerning the welfare of a significant number of employees. It will provide another means of securing employees' viewpoints and suggestions for increasing employees' participation in the development and application of personnel practices and policies."

Employees' Activities Committee

M. F. Stansbury, Chairman
T. D. Doiron, Secretary-Treasurer
H. J. Clement
J. N. Grant
J. Guzzardo
L. L. Holzenthal
W. S. Singleton

To supervise and consult on activities initiated and/or carried out by the employees of the Division, to hold in safekeeping such funds as may represent profits from various functions or activities, and make them available for future employee activities. Activities supervised have included the annual Christmas dance, annual Christmas party, and the Spring dance. The Employees' Activities Committee itself does not organize and conduct social events.

Honor Awards Committee

R. M. Persell, Chairman
F. G. Dollear
L. A. Fiori
H. K. Gardner
C. L. Hoffpauir
L. W. Mazzeno, Jr.
F. M. Smith

Objectives and Functions

To identify activities and achievements within and without the Department, appear to be indicated; to analyze and evaluate all nominations for honor awards, submitted to or originating with the committee, and to make recommendations on such awards to the Director of Division; and, to be responsible for the preparation in final form of all nominations approved by the Division Director.

Library Committee

G. E. Goheen, Chairman
T. H. Hopper
F. M. Smith
D. B. Skau

To advise the Librarian; to meet with the Librarian, keep her informed of programs underway or contemplated, and to advise ways in which the Library can be of aid in furthering these programs.

Luncheonette and Vending
Machines Committee

T. D. Doiron, Chairman
A. F. Cucullu
L. W. Mazzeno, Jr.
M. Mayer, Jr.
Mary L. Nelson

Acts as liaison between Laboratory and operator of luncheonette.

Management Improvement Committee

F. M. Smith, Chairman
G. E. Goheen, Co-Chairman
F. G. Dollear
L. A. Fiori
V. H. McFarlane
L. W. Mazzeno, Jr.
E. F. Pollard

Surveys management improvement activities. Initiates, and encourages the initiation of, specific management improvement projects. Develops management improvement programs and reports on their execution. (AM 126.1)

Personnel Committee

G. E. Goheen, Chairman
F. M. Smith, Executive Secretary
R. J. Cheatham
T. H. Hopper
V. H. McFarlane
E. L. Patton
F. S. Perkerson

Evaluates candidates for promotion under the "Career Promotion Program." Serves in advisory capacity on Incentive Award, Honor Award, and Training Programs.

Recruitment Committee (Technical Personnel)

R. M. Persell, Chairman
N. B. Knoepfler
H. W. Little
D. P. Parmentel
E. F. Pollard
F. M. Smith
T. H. Swan

Objectives and Functions

Responsible for planning and coordinating the Division's program for recruitment of scientific personnel.

Safety Committee

N. B. Knoepfler, Chairman
J. C. Arthur, Radiological Safety Officer
J. B. Davies, Safety Engineer
J. J. Spadaro, Secretary
L. W. Mazzeno, Jr., Chief, Gas Squad
J. E. Sands, Chief, First Aid Squad
W. S. Singleton, Chief, Fire Squad

Promulgates and coordinates the safety program of the Division. Advises the Director on matters of broad policy relating to the protection of life and property.

Seminar Committee

A. M. Altschul, Chairman
H. J. Deobald
R. O. Feuge
L. A. Fiori
J. D. Guthrie
R. T. O'Connor
Elmo Patton
R. M. Persell
D. J. Stanonis

Plans and carries out the Division's seminar program with the object of providing opportunities for the development of employees professionally, for informing the scientific staff of work being conducted in the Division and in other public and private research laboratories, and for the exchange of information and development of new ideas.

Suggestion Committee

B. M. Kopacz, Chairman
T. D. Doiron, Consultant
P. H. Eaves
J. T. Hogan
M. Mayer, Jr.
V. W. Tripp
F. Weiser

In an advisory capacity to the Director of the Division, the Suggestion Committee reviews and evaluates suggestions made by employees of SURDD to improve the safety, efficiency, and economy of Government operations generally.

Radiological Safety Officer

J. C. Arthur, Jr.

To be responsible for radiological equipment and radioactive materials.

Records Security Representative

Objectives and Functions

F. M. Smith

To be responsible for receipt and proper handling of classified material and review of foreign mail.

Building, Grounds and Space Committee: During the year 1959, the Building, Grounds and Space Committee continued activities for the general improvement of the building and grounds and for the more efficient utilization of space within the building in New Orleans.

Projects completed during the calendar year 1959 and progress on additional items are as follows:

1. New Cafeteria: The new cafeteria located in the basement (Bays 0020-0024) was completed in June. It is airconditioned partially from the adjacent air-conditioning zone. The cafeteria ceiling is pan-type, and the air is distributed through small holes in the ceiling, thus preventing excessive drafts. In cases where the cafeteria becomes crowded, a window airconditioner will automatically come on, thus keeping the cafeteria in a comfortable condition, regardless of the number of people being served.

Vinyl asbestos tile was installed in the basement corridor and the walls painted Pinefrost Green. It was necessary to raise the trench cover to the level of the new tile floor. The area leading to the cafeteria has been improved and presents a neat and pleasing appearance. A bulletin board has been installed near the cafeteria.

2. New Offices in Administrative Unit: Bays 1023-1025 (the old cafeteria) were converted into offices and occupied by personnel of the Mechanical Service Section. The floors were refinished with asbestos tile, and the ceiling was acoustically treated; the walls were painted Pinefrost Green. In the ensuing year, a partition will be installed between the two rooms.

3. New Offices in Textile Mill: Four new offices were completed in the Pilot Plant. The work involved installation of partitions and suspended ceilings, placing tile in the basement office, and the laying of hardwood flooring on the first, second and third floors. These offices were urgently needed, in order that the Pilot Plant personnel might be nearer to the Pilot Plant work. Airconditioning units of the heating pump type and fluorescent light fixtures were installed in the four offices.

4. Conference Room: A folding partition with acoustical insulation was installed between Rooms 3020 and 3022, thus making it easy to separate the two south rooms from the four north rooms of the Conference Room.

Work is continuing on the airconditioning of the Conference Room which will be completed in the ensuing year.

5. Sweetpotato Starch Plant: A contract has been let for the erection of structural steel for the Sweetpotato Starch Plant for EDL. The structural work will be completed in the ensuing year. It has been necessary to install a new concrete foundation beam, which has been completed, and lumber has been treated for termites and stored in the Pilot Plant ready for installation.
6. Relocation of Pilot Plant Stairs: The Pilot Plant stairs were relocated south of the freight elevator near the door, thus providing better access to the building through the south door of the Pilot Plant.
7. Grounds: Juniper trees were planted on the north and west sides of the building, and additional oak trees have been planted as a border on the main entrance road. The low places in the grounds have been filled and the area leading to Wisner Boulevard has been considerably improved by the planting of additional trees and furnishing of fill. The entire area is being given considerable attention, with the idea of improving the area of grounds adjacent to Wisner Boulevard.
8. Building Exterior: The concrete base course around the building was re-conditioned and painted a soft white. This background of soft white against the green shrubbery has made a very pleasing appearance and setting for the building.
9. Relocation of Plumbing Shop: The Plumbing Shop of the Mechanical Service was relocated in the Pilot Plant area. Due to the fact that welding cannot be done in the Pilot Plant area, a shed in the court has been utilized for welding.
10. Work for IC Laboratory: Ventilating hoods were purchased for installation in the Kjeldahl Room (3100). A center bench for storage of solvents was installed previously in Room 3105. The installation of ventilation hoods in these two laboratories will insure safe working conditions in fumes and solvents.
11. Special Laboratory Equipment: Special laboratory equipment was purchased and installed in the following rooms: 3105, 1106, 1108, 1110, 1111, 1113, 0102, 0109, 1125, 1129, 1135, 2107, 3111, 0130, 0132, 0134.
12. New Partitions: Partitions were installed and in some instances new suspended ceilings in Rooms 3010, 3012, 3026, 3028, 3032-B, 1023 and 1025.
13. Glass Blowing Shop: Considerable effort was put forth in the Glass Blowing Shop in order to make it a safe place to work. Oxygen, hydrogen, and propane gases are used in this shop. The storage of cylinders are all located on the outside of the building with pressure-reducing stations located near same, and the gases are piped into the shop with rigid pipe, thus assuring that working conditions in the shop will be safe.

14. Work for F&V Products Laboratory, Weslaco: Plans and specifications were prepared for a new roof at the U. S. Fruit and Vegetable Products Laboratory, Weslaco. A study was also made of the power demand at this station, and recommendation has been made for the installation of capacitors in order to improve the power factor at the station.

15. New Laboratory at Naval Stores Station: Recommendations have been made concerning a new laboratory which is under consideration at the Olustee Naval Stores Station for the IC Laboratory.

16. Electrical Distribution: A large panelboard was installed in the Carpenter Shop in order to provide better electrical distribution in the Pilot Plant and shop areas. The panelboard is a heavy duty type board which was to have been installed in the old Winter Haven Laboratory. It was conveniently used in its present location.

17. Acid Building: An unsafe condition existed in connection with the handling of acids. In order to prevent damage to the building, an isolated acid building was constructed in the compound. This building has acid-proof floors, eye-showers, and other features to make it safe to work.

18. Office Supplies: It was determined it would be more convenient to store office supplies in Room 0006 near the present chemical storeroom. The room is being placed in readiness for use of the Administrative Services for this purpose.

19. Photographic Laboratory: The Building, Grounds and Space Committee made a careful study for a location of the Photo Lab. It was decided to move it to Rooms 0028-30. This project is in progress and will be completed in the ensuing year.

Defense Planning Committee: Contact was made with the Civilian Defense Director for the New Orleans area by the chairman of the above committee to learn of the overall planning for the evacuation and interrelated activities of the city's CD Headquarters during and following an attack and mass evacuation. The part that SU could play in such an event was elaborated on by the CD Director. This included plans for registering, locating, and communicating with SU personnel if dispersed in one of the several assembly areas outside the city (20-25 miles away). Members of the committee have been apprised of the information on CD furnished to the chairman.

Consideration is being given to relocating pertinent records of SU research activities so as to be available for operations elsewhere, should the SRRL be destroyed in a major disaster.

A plan was discussed with the CD Director of New Orleans to integrate the appropriate skills and services of the scientists, engineers, technicians, mechanics, etc., of SU with others of the New Orleans CD organization to assist in emergency work during the period immediately following an attack.

Employee Advisory Council: During Calendar Year 1959, the Employee Advisory Council as liaison between the Office of the Director and the General Staff to advise the Director on issues concerning general employee welfare, considered and processed the following matters on behalf of the Staff:

Building and Grounds: Several suggestions on this subject have been considered by the Council and, as a result, appropriate action was recommended:

1. Better drainage was provided for the rear parking lot.
2. The weathering rack area has been filled in an effort to remedy low and muddy areas.
3. Action was taken to eliminate wasps from the weathering racks.
4. To prevent the obstruction of the sidewalks by cars improperly parked, parking spaces were more clearly delineated.
5. The side door of the pilot plant, leading to the parking lot, was unlocked at more appropriate times to coincide with employees entering and leaving the building.

Major Medical Insurance: A study group has investigated the possibility of establishing a group plan for major medical insurance for SU personnel. This group was dissolved when Congress passed legislation to provide such coverage to government employees.

Reading Education: As a direct result of the Council's recommendations and comprehensive study, a rapid reading course was successfully conducted here by a qualified instructor. Because of the enthusiasm and marked improvement in reading speeds of the participants, this instruction will be given to another group next FY.

Lunch Room: Serious and extensive studies were conducted to seek improvement in the operation of the lunch room. Numerous complaints and suggestions were considered and corrective action was recommended. Some improvement in the quality of the food and the service has been noted. The hours of operation were changed to provide the lunch room operator with more time for preparations.

Suggestion Program: A study group was formed to look into all aspects of the Division's safety program.

USDA Club: In an effort to find out the desirability and means of reactivating the USDA Club in this area, a study group was formed.

Employees' Activities Committee: The Employees' Activities Committee continued to serve in an advisory capacity to various recreation and social activities of SURDD employees.

Christmas Dance: The annual Christmas Dance was held on Friday, December 11, 1959 from 9:00 p.m. to 1 a.m., at Morrison's Patio, 918 Gravier Street. Music was furnished by Joe Kluchin and his Southerners. One hundred and eighty tickets were sold at \$2.25 per ticket.

Walter Cholewczynski was Chairman of the Christmas Dance Committee. He was assisted by Lara DiTrapani, Vice Chairman; Trinidad Mares, Treasurer, Patricia Carite, Secretary; Mary Frances Morgan; Alva F. Cucullu; Barbara A. Tullier; Peter A. Accardo; William Trammell; Mercedes W. Elizardi; and Diane Schaneville. George Pittman and John L. White, although not members of the Committee, helped in the preparation of signs and tickets, respectively. In addition to making all arrangements for the Christmas Dance, the Committee furnished and decorated an artificial (aluminum) Christmas tree in the SRRL lobby. This tree is being stored for reuse next year. The sale of tickets amounted to \$405.00 and the total expenses were \$422.50, leaving a net loss of \$17.50. Since the Committee had in its fund \$32.40 (\$14.40 balance from 1958 plus \$18.00 refund from Coker Room), this leaves a balance of \$14.90 to help defray future dance expenses.

Christmas Party: It was decided not to hold a Christmas Party in 1959. However, there is a balance of \$117.55 in the Christmas Party fund to help defray expenses of a future party.

Honor Awards Committee: During the year, thirteen award nominations were made by the Laboratory, based on the efforts and recommendations of the Award Committee. Ten of the nominations were for USDA Honor Awards. The three remaining nominations were for outside awards.

Library Committee: The SU Library Committee during 1959 continued its activities for the general improvement of the Library and Library Service.

Effective July 1, 1959, the Library Services were transferred to SURDD and placed in the Director's Office. The Committee Chairman and Dr. Fisher met with Foster E. Mohrhardt, Director of the USDA Library, Washington, on October 26 to discuss administrative changes resulting from this transfer.

The Library Committee held one formal meeting during 1959. Informal consultations were held as needed. Plans were made for improving a working area in the Library. The list of periodicals was surveyed and appropriate action was taken where desirable.

The "current journal screening program" was expanded.

Luncheonette and Vending Machines Committee: This committee acts as liaison between the Laboratory and the operator of the luncheonette. The Committee also consults with the Department of State Welfare (Rehabilitation of the Blind Division). CY 1959 was a particularly eventful year in that the luncheonette was provided with new facilities in the basement. Hot lunches, salads, and a variety of hot sandwiches have been added to the menu. Lunches are served Monday through Friday, starting at 11:15 a.m. The Health Department, City of New Orleans, consented to conduct monthly inspections of the lunchroom operations.

Three formal committee meetings were held -- June 29, September 3, and November 17, 1959. These meetings were mostly concerned with special problems relating to securing additional equipment and services for the lunchroom.

Every effort will be made to enlarge and make more efficient the services offered by the luncheonette.

Management Improvement Committee: The Division's management improvement program under the ARS plan described in AM 126.1 has been developed and submitted to the Deputy Administrators Office, and approved by memorandum of September 9, 1959 from the Acting Deputy Administrator, W. D. Maclay. A progress report was submitted to Washington December 1, 1959. Activities and achievements for CY 1959 include the following:

Fiber and Fabric Sample System: Progress in establishing a pilot project with the cotton fiber and fabric samples of the Cotton Mechanical Laboratory has been made.

Fiber System: A list of miscellaneous cotton samples stored in the Cotton Mechanical Laboratory was circulated to the Laboratories concerned requesting their comments regarding disposal. As a result, approximately 80% of these samples were found to be no longer needed and are being discarded. Shelves have been installed in assigned locked storage space in the attic, and raw cotton samples are now being stored on the shelves. These samples will be identified more thoroughly and an inventory system maintained by a designated employee who will handle all transactions with reference to cotton samples.

Fabric System: Storage space has been made available for fabric samples (Room 3029), and shelves installed for storing the samples which are now being inventoried. An inventory system will be maintained and controlled by the person in charge of the raw cotton sample inventory.

As originally envisioned, this project will eventually embrace all Laboratories in SU which use substantial numbers of cotton samples. Progress is being made toward this end. The full benefit of the Cotton Mechanical Laboratory Fiber and Fabric system will be realized when it is available on a division-wide basis. As other Laboratories of the Division become acquainted with the inventoried fiber and fabric samples and their processing history, it is anticipated that they will make full use of this system.

Sub-Project of the Fiber and Fabric Sample System: As the result of an employee suggestion which involved the production of large quantities of fabric samples, a committee on Cotton Sample System has been appointed to lay out a detailed plan for its implimentation, establishment and operation.

Realignment of the Engineering Pilot Plant: Realignment of the Pilot Plant in the Engineering and Development Laboratory is being developed on a long-range basis. The nature of the work in the Engineering and Development Laboratory is continually changing and becoming more varied, requiring new pilot plant equipment, modification and rearranging of old equipment and disposal of surplus and obsolete equipment to provide additional floor space. It is anticipated that smaller units will be employed to conduct pilot plant operations for one or more projects simultaneously so that each may be carried out independently. Task groups will be utilized wherever feasible in conducting pilot plant operations to expedite process and product development.

Progress has been made to date in the realignment in that additional floor space has been provided for offices in the west end of the Pilot Plant. Four offices, one in the basement, and one each on the first, second, and third floors have been completed and occupied. Progress has been made, also, in connection with the proposed sweetpotato pilot plant relative to space, floor layout and equipment.

Storage Space Layout: Storage space in the attic and basement at SU, including temperature and humidity controlled storage, has been identified, and floor diagrams have been prepared indicating storage space for which the Laboratories and Units are responsible. Division Administrative Memorandum No. 19 has been issued transmitting copies of the floor diagrams to all Laboratory Chiefs and Heads of Investigations at SU. This memorandum directs that no equipment or material shall be placed in these storage areas without securing proper approval. It also provides that items stored in any of the storage areas shall be adequately tagged to show the Laboratory or Office having custody, and other essential information.

Conferences for SU Secretaries: The Business Office has initiated a series of conferences which are held periodically for the secretaries of SU. Members of the Director's Staff and Business Office review and discuss with secretaries the procedures, forms, and policies covering the activities and subject matter with which they are concerned in their work. Whenever necessary, new or revised instructions resulting from the conferences are issued to the secretaries. Such conferences help to increase efficiency and develop an understanding of the reasons for existing methods and procedures.

Personnel Committee: During the year 1959 the Committee went into full action and considered members of the SU scientific staff for promotion on the basis of the "Plan for the Evaluation of Scientists and their Positions in Agricultural Research" as formulated by the ARS Personnel Division.

The actions taken in three meetings of the Committee included the approval of 22 scientists for promotion.

Recruitment Committee: The Recruitment Committee continued to implement the Division's long range program in connection with the procurement of suitable personnel for our staff.

Personal on-the-campus interviews with prospective graduates of seven colleges and universities were held in cooperation with the Civil Service Commission and other interested agencies.

Interviews were also arranged at both national meetings of the American Chemical Society through the Society's Employment Clearing House.

The files of several major professional societies were scanned by some of the Division's travelers and the names of some potential employees obtained.

Safety Committee: The Safety Committee continued to function in an advisory capacity to the Director on matters of policy relating to the protection of life and property including the interpretation of safety codes; instruction of personnel on safety; periodic inspections of facilities; the operation, adequacy and qualification of plant protection groups and equipment; the storage, handling, and disposal of solvents and other chemicals; and other matters of safety.

The committee assisted the New Orleans Fire Department in the disposal of 55 gal. of Grignard reagent and 400 lbs. of white phosphorus.

Under the auspices of the Safety Committee, Mr. J. F. O'Neal, Director of the Industrial Service of the National Society for the Prevention of Blindness, Inc., addressed the staff on the subject of eye safety.

Twenty six staff members received certificates for completion of the Red Cross First Aid course. Five staff members completed the advanced First Aid course. Both of these courses were conducted at SU under the auspices of the American Red Cross.

A color movie on Mouth to Mouth Rescue Breathing was shown to the staff.

The display and rotation of posters and the circulation of safety literature were systematically continued with the objective of maintaining employee vigilance in safeguarding health and property and forcefully bringing to each employee his responsibility for his own safety and that of his co-workers.

At the end of January 1959 a total of 264,130 man hours had been worked by SU employees without a lost-time accident. Our first lost-time accident in 1959 occurred in February, after which our man hours without a lost-time accident rose to 214,456, at the end of April. Other lost-time accidents occurred in May, July, October, and December. We closed the year with 30,260 man hours worked without a lost-time accident. A total of 8 lost-time accidents in 1959 was an increase of 4 over 1958. The aggregate of the

lost time (168.1 days) was considerably higher than the two previous years. There were two cases of contact dermatitis (28.2 days and 38 days respectively); one injury with 1st and 2nd degree burns on right arm, neck and flank (32.2 days); one chemical burn of eyes (11 days); one fracture of both great toes (32.5 days); one sprained foot (4 days); and two strained backs (12 days and 10 days respectively).

The non-lost-time injuries in 1959 totaled 26, as compared to 25 in 1958. Fifteen of these injuries required medical treatment, and twelve were cuts and/or lacerations on fingers and hands caused by glassware and/or machinery; one chemical burn on hand; one strained thigh from lifting; and one inflammation of eye from chemical splashing into eye. Of the remaining 11 injuries, 10 required first aid only, and one required no treatment -- these injuries included minor cuts and bruises and minor acid burns.

Seminar Committee: During CY 1959, thirty-two seminars were held at the Southern Regional Research Laboratory:

- Jan. 8 - "Atomic Energy Applications to Agricultural Utilization Research. I. Interactions of Radiations with Matter," by Jett C. Arthur, Jr.
- Jan. 15 - "Uses of Radioisotopes in the Textile Industry," by Dr. William T. Rainey, Head, Textile Research Department, Clemson School of Textiles.
- Jan. 22 - "Chemistry of Nitrogen Compounds," by Dr. Joseph Boyer, Department of Chemistry, Tulane University.
- Feb. 12 - "Modern Wet Processing for the Chemical Finishing of Cotton Textiles," by Dr. J. D. Reid.
- Feb. 19 - "Methods of Chemical Spectroscopy Not Currently Used at SRRL," by Robert T. O'Connor.
- Feb. 20 - "A New System for Catalysis of Reactants and Resins," by James B. Irvine, Director, Textile Research Department, Quaker Chemical Products Corp., Conshohocken, Pa.
- Feb. 26 - "Cost Analysis at SU and Its Application to Partial Acetylation of Cotton," by Kenneth Decossas.
- Mar. 5 - "Market Research in Textiles," by Frank Barlow, Agricultural Economist, AMS.
- Mar. 9 - "Some Aspects of the Mechanism of Damage Due to Retained Chlorine," by Dr. Melvin D. Hurtwitz of Rohm and Haas Company, Philadelphia, Pa.

- Mar. 10 - "Patents," by T. A. Seegrist, Senior Attorney, Office of Research and Staff Legal Services, Office of the General Counsel, U.S.D.A., Wash.
- Mar. 11 - "Stabilization of Cotton Thru in situ Polymerization," and "Modification of Polymers," by Drs. R. I. Leininger and F. B. Jones, Rubber and Plastics Division, Battelle Memorial Institute, Columbus, Ohio.
- Apr. 16 - "SRRL Granular Card," by August L. Miller.
- May 5 - "National Science Foundation Fellowships Program," by Dr. T. Fontaine, Head, Fellowships Program, National Science Foundation, Wash., D.C.
- May 18 - "Physical and Chemical Differences Between Types of Cotton," by Dr. L. Rebenfeld, Textile Research Institute, Princeton, N. J.
- June 18 - "Ion-exchange Celluloses for Chromatographic Separations," by Dr. J. D. Guthrie.
- June 23 - "Some Recent Advances in Research at Battelle Institute," by Dr. Frank C. Croxton, Technical Director, Battelle Memorial Institute, Columbus, Ohio.
- June 25 - "Application of Ion-exchange Celluloses," by Dr. J. Dechary and Mrs. Katherine Talluto.
- July 2 - "Preparation of Manuscripts," by James J. Spadaro.
- July 9 - "The Effect of Cellulase on Cotton Fiber Microstructure," by Blanche Porter.
- July 23 - "Research at the Swedish Textile Research Laboratory," by Dr. Joel Lindberg, Deputy Director, Swedish Institute for Textile Research, Gothenburg, Sweden.
- July 24 - "Cellulose and Formaldehyde," and "Cellulose and Resin Finishing," by Dr. J. T. Marsh, Consulting Chemist from Cheshire, England.
- Aug. 6 - "Heat Transfer Through Fibrous Cotton Slabs Part I. Steady State; Part II. Transient State," by Herman J. Janssen.
- Aug. 18 - "European Textile Processing Research and Equipment," by R. A. Rusca.
- Sept. 3 - "Degradation of Cotton in an Oxygen Atmosphere by Gamma Radiation," by Flo Blouin.
- Sept. 10- "Apparent Activation Energy of Hydrolysis of Some Cellulosic Materials," by Dr. Mary L. Nelson.

- Oct. 1 - "Radioactive Tracers in Chemical Research," by Audrey Gros.
- Sept. 24 - "Glow Discharge," by Joseph Hogan.
- Oct. 15 - "Fat Emulsions," by Sidney Singleton.
- Oct. 22 - "The Permanent Setting of Wool," by Dr. A. J. Farnsworth of the Commonwealth Scientific and Industrial Research Organization, Wool Research Laboratories, Geelong, Vic., Australia.
- Oct. 26 - "Scientific Information," by Foster E. Mohrhardt, Director, USDA Library, Washington, D. C.
- Nov. 5 - "Synthetic Polypeptides," by Dr. Bamford, Courtaulds, Maidenhead, England.

Suggestion Committee: In 1959 the Suggestion Committee continued active review of employee suggestions. A total of 63 suggestions were received and evaluated. Twenty-one employees received awards amounting to \$385.00.

Administrative Memorandum 123.1 entitled "Incentive Awards Program" was revised as of November 16, 1959. The changes are extensive and under study by the Committee and others in the Division. It is expected that the Incentive Awards Program will be handled more efficiently under the regulations.

The disposition of the 63 suggestions at SURDD was as follows: Approved for adoption 21; partially approved for adoption 2; disapproved 21; SU lacks authority to approve 4; pending 15.

The status of the ARS Incentive Awards Committee evaluation is as follows: Approved for cash awards 12; disapproved for cash awards 19; pending 29.

Following is a list of employees who received cash awards during CY 1959 for employee suggestions: Rita May Bolen \$25.00; Morris J. Dupuy \$10.00; John F. Hall \$12.50^{1/}; Chester H. Haydel \$10.00^{2/}; Marie A. Jones \$35.00; Amos P. LeJeune \$12.50^{1/}; Nealy C. McConnell \$25.00; Tommie J. Newman \$10.00; Janice I. Oertel \$10.00; Clotilde H. Oubre \$25.00; Lida L. Placek \$25.00; Sterling J. Raffray \$15.00; J. David Reid \$25.00; Mary L. Rollins \$25.00; Rita T. Rushing \$10.00; Joseph R. Schroeder \$30.00; Julia M. Sloan \$10.00^{2/}; Grace W. Soignet \$25.00; Hugh B. Summers \$10.00; Beverly G. Webre \$25.00; and Heber W. Weller, Jr. \$10.00^{2/}.

1/ and 2/ -- Joint Suggestions.

2. ACHIEVEMENTS

a. Commercialized Developments of the

Southern Utilization Research and Development Division

Reported in 1959

COTTON

1. Fire Resistant Cotton with BAP-THPC Finish
2. Radically New Method of Carding Shows Great Promise
3. Semi-Elastic Conforming Diapers

OILSEEDS

1. Hydroxyethylation Improves Cotton Linters for Use in Paper Making

b. Research Achievement Sheets

The following Research Achievement Sheet of the Southern Utilization Research and Development Division was issued during calendar year 1959:

RAS Number	Title	Date	Responsible Laboratory
202	The SRRL Cotton Opener-Cleaner, a Modern, Efficient Machine for Cleaning Cotton	10/59	E&D

c. Awards

During 1959 the following U.S.D.A. Honor Awards were received by members of the Staff:

Superior Service Awards

John J. Brown
Louis A. Fiori

For research in textile engineering that has increased utilization of cotton through the recognition and application of fiber fineness in improving product quality, processing efficiency, and merchandising practices.

Mary L. Rollins
Verne W. Tripp

For brilliant pioneering research leading to improved textile processing through the development of significant basic knowledge of the microscopic and sub-microscopic structure and behavior of cotton.

3. COOPERATIVE RESEARCH

a. Contract Research

Contract research, where the Division pays another organization for the performance of research under conditions specified by written contract, is an integral part of the Research program of this Division. It makes available the facilities and personnel of the best research organizations in the country, provides highly specialized equipment and personnel when needed, and also stimulates the interest of other organizations in research problems related to Southern agricultural commodities. Prior to January 1, 1959, the Southern Division executed a total of 57 contracts amounting to \$1,503,420.

(1) Contracts executed during CY 1959:

<u>Contractor</u>	<u>Objective</u>	<u>Amount</u>
Auburn Research Foundation, Inc.	Investigations designed to determine the effect of selected fiber properties and processing variables on end breakage during the spinning of cotton yarns	\$30,065
Clemson Agricultural College	Investigations designed to develop elastic cotton yarns suitable for use in the manufacture of socks and other knit wear	39,918
Lowell Technological Institute Research Foundation	Investigations designed to develop winter weight cotton fabrics having good warmth properties using the woolen system for producing the yarns	35,037
Lowell Technological Institute Research Foundation	Investigations designed to develop re-active finishing agents to produce wrinkle-resistant and "wash-and-wear" cotton fabrics with improved strength	31,170
4 Contracts	Total	\$136,190

(2) Contracts completed during CY 1959:

<u>Contractor</u>	<u>Objective</u>	<u>Amount</u>
Texas Agricultural Experiment Station, Part of Texas A and M College System	Evaluation of data to determine the quantitative relationships between processing conditions, chemical characteristics and the nutritive value of commercial cottonseed meals.	\$ 3,600
North Carolina State College	Chemical-mechanical treatment of cotton to improve smoothness, in- cluding pre-swelling and additive finishes in combination with normal Schriener, and friction calendering	25,040
2 Contracts	Total	\$28,640

(3) Contracts in effect on December 31, 1959:

<u>Contractor</u>	<u>Objective</u>	<u>Amount</u>
University of Southern California	Physiological investigations of some potentially useful new-type fats to establish their behavior on ingestion.	\$ 45,225
University of Illinois	Copolymerization of unsaturated chemicals derived from farm commodities with other monomers to obtain useful elastomers and plastics.	40,000
Fabric Research Laboratories, Incorporated	A study of the effect of yarn and fabric structure on tear strength to aid production of cotton fabrics of greater value and utility.	35,433
National Institute of Dry Cleaning	Research on Development of Commercial Methods of applying resin formulations to cotton garments for permanent creasing by use of standard drycleaning equipment.	25,397
Georgia Tech Research Institute	Research to develop methods of processing ramie fiber into quality yarns.	20,036
Clemson Agricultural College School of Textiles	Research on treatment of cotton with resin and rubber latices to obtain new and valuable textile products.	20,745
University of Tennessee	Investigations to develop information on the chemistry of gossypol to aid in the improvement of cottonseed meal and oil.	21,363
Arizona Agricultural Experiment Station	Investigation of changes in composition of peanuts during processing as they affect the properties and flavor of processed products.	25,322
Battelle Memorial Institute	The "In Situ" polymerization of ethylene ureas and ethylene amides within the fibers of cotton goods to improve properties such as resistance to creasing, shrinking, wrinkling, sunlight rotting, and to wetting and staining.	33,822

(3) Contracts in effect on December 31, 1959 (continued):

<u>Contractor</u>	<u>Objective</u>	<u>Amount</u>
Texas Woman's University	Development of processes designed for the treatment of cotton fabrics with compounds of aluminum, magnesium, and cobalt to impart weather stability, flame resistance, mildew and rot resistance, and water repellency.	\$ 29,950
University of Mississippi	Investigations of the development of methods for the preparation of intermediates for making elastomers, plastics, and protective coatings from chemicals derived from selected Southern-grown agricultural commodities.	14,996
University of Florida	Investigation and evaluation of vehicles and surface coatings from derivatives of tung oil, castor oil, and pine gum.	9,708
United States Testing Co.	A study designed to develop apparatus and methods for preparing cotton fiber specimens suitable for scanning to rapidly obtain fiber-length and length distribution measurements.	35,729
<u>4 Contracts listed under (1)</u>		<u>136,190</u>
17 Contracts	Total	\$ 493,916

(4) Summary of Contract Research

A total of 61 research contracts amounting to \$1,639,610 have been executed prior to January 1, 1960 by the Southern Division. Four (4) new contracts were executed during calendar year 1959 with obligations amounting to \$136,190. Two (2) contracts amounting to \$28,640 were completed during calendar year 1959. There was an increase of two (2) contracts in effect at the end of calendar year 1959. The cost of contracts in effect at the end of calendar year 1959 was \$107,550 more than those in effect at the beginning of the calendar year.

b. Cooperative Agreements and Memoranda of Understanding

Much of the research in the program of the Southern Division is done on an entirely informal basis, but some of the work is conducted under conditions described in writing, and are called Cooperative Agreements and Memorandums of Understanding. The total number of such written agreements in effect during CY 1959 is fifty-two (52). These are broken down as shown below:

<u>State Experiment Stations</u>	<u>Number</u>	<u>Total</u>
Arkansas	1	
Florida	1	
Louisiana	1	
North Carolina 1/	1	
North Carolina 2/	1	
Puerto Rico 3/	1	
South Carolina	1	
Texas	2	
Texas 4/	1	
		10

- 1/ 3-way agreement between National Pickle Packers Assn., SU,
and North Carolina Agricultural Experiment Station
2/ Supplement 3 to Master MU
3/ Supplement 1 to Master MU
4/ 3-way agreement with Texas Rice Improvement Assn., and BPISAE

<u>Federal Agencies</u>	<u>Number</u>	<u>Total</u>
Bureau of Animal Industry	1	
Bureau of Human Nutrition and Home Economics	2	
Bureau of Plant Industry, Soils, and Agricultural Engineering	2	
Commodity Credit Corporation	1	
Federal Extension Service	1	
Foreign Agricultural Service	1	
Library, USDA	1	
		9

<u>Universities</u>	<u>Number</u>	<u>Total</u>
California Institute of Technology	1	
Clemson College	1	
L.S.U. and A.M. College	1	
L.S.U. 1/	1	
North Carolina Vocational Textile School	1	

- 1/ 3-way agreement with SU and New York Sugar Trade Laboratory, Inc.

<u>Universities (continued)</u>	<u>Number</u>	<u>Total</u>
North Carolina State College	1	
Philadelphia Textile Institute	1	
Texas Technological College and Textile Research Laboratories	1	
		8

<u>Associations</u>	<u>Number</u>	<u>Total</u>
American Sugar Cane League of the U.S.A., Inc.	1	
Canvas Products Assn., International	1	
National Confectioners' Assn.	1	
National Cottonseed Products Assn.	1	
National Pickle Packers' Assn. <u>1/</u>	1	
New York Sugar Trade Laboratory, Inc. <u>2/</u>	1	
New York Sugar Trade Laboratory	1	
Rio Farms, Inc.	1	
Texas Cannery's Assn.	1	
Texas Rice Improvement Assn. <u>3/</u>	1	
Texsun Citrus Exchange	1	
Tung Research and Development League	1	
	12	9

- 1/ Agreement with N. Carolina Agricultural Experiment Station.
2/ STMU with L.S.U., New York Sugar Trade Laboratory, and SU.
3/ Agreement cooperative with BPISAE and Texas Agricultural
Experiment Station.

(2 previ-
ously re-
ported
under State
Experiment
Stations,
1 under
Universi-
ties)

<u>Industry</u>	<u>Number</u>	<u>Total</u>
American Cyanamid Co., Valdosta, Ga.	1	
Anderson, Clayton & Co. (Fiber and Spinning Laboratory, Houston, Tex.)	1	
Anderson, Clayton & Co., Houston, Tex.	1	
Avondale Mills, Sylacauga, Ala.	1	
Baker Castor Oil Co., Bayonne, N.J.	1	
Bauer Bros. Co., Springfield, Ohio	1	
Bisbee Linseed Co., Inc., Chicago Heights, Ill.	1	
Charles F. Cates and Sons, Inc., Faison, N.C.	1	
Citrus Equipment Corporation, Winter Haven, Fla.	1	

<u>Industry (Continued)</u>	<u>Number</u>	<u>Total</u>
Comet Rice Mills, Houston, Tex.	1	
Mississippi Cottonseed Products Co., Jackson, Miss.	1	
National Sugar Refining Co., The	1	
Southwestern Engineering Co., Los Angeles, Calif.	1	
Western Cottonoil Co., Abilene, Tex.	2	
Wurster and Sanger, Inc., Chicago, Ill.	1	
		<hr/>
		16
Total Agreements		52

Of the fifty-two written agreements, all are Memorandums of Understanding.

c. Research Conducted with Funds From Other Government Agencies

During calendar year 1959 four (4) research projects were being conducted with funds provided by other government agencies. The agencies and the objectives of projects were as follows:

<u>Agency</u>	<u>Project Objective</u>
Foreign Agricultural Service	Classifying, testing, and analyzing samples of milled rice.
Office of the Surgeon General	Research on emulsifiable fats and oils.
Department of the Army Quartermaster, Research and Engineering Command	Research on stabilizing dehydrated sweet-potato flakes.
Department of the Army Engineer Research and Development Laboratories	Research on fire retardant protective coatings from domestic vegetable oils.

4 Agencies	4 Projects
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d. Industry Fellowships

During the past year six research fellowships were maintained at the Southern Laboratory by industrial associations. Under these fellowships the associations pay the salary, travel, and other expenses of the fellow and the Laboratory makes available the necessary physical facilities and technical supervision. The fellows during the past year were:

Biagio Piccolo
National Cottonseed Products Association

Leroy J. Theriot
National Cottonseed Products Association

Gerald B. Verberg
National Cottonseed Products Association

Lucien L. Hopper, Jr.
Tung Research and Development League

Werner Landmann
National Confectioners' Association

Edward L. Patton
Canvas Products Association, International

The work of the fellows for the calendar year 1959 is summarized below:

National Cottonseed Products Association

The National Cottonseed Products Association maintained three fellowships in the Industrial Crops Laboratory. Mr. Leroy J. Theriot conducted research on the fractionation of meal obtained from glandless cottonseed and the protein fraction soluble in 1.5 Molar NaCl in 50% aqueous ethyl alcohol. This protein is a glycoprotein that is rich in lysine (5.1%), and it was found, from studies with weanling mice, to have a nutritive index equal to that of casein. A crystalline sugar was isolated from the protein on mild acid hydrolysis, but its identity has not been established. This sugar, probably a pentose derived from galactose, does not yield an osazone. The infrared absorption spectrum is very similar to that obtained with L-arabinose; the only difference is in the appearance of absorption bands at 5.1 and 6.5 microns for the unknown sugar - these bands do not occur in the infrared spectrum of arabinose. The sulfur in the protein is labile, since H_2S is evolved when the protein is treated with 0.01 Molar $Ba(OH)_2$. The free ϵ -amino groups of lysine in this glycoprotein are also heat labile. Mr. Theriot resigned in February 1959 to attend graduate school.

Mr. Piccolo continued research on the egg yolk discoloration problem. One phase of the work was concerned with a collaborative testing of the usefulness of the AGU (Available Gossypol Units) method for grading cottonseed meals for laying rations. In essence the method consists of measuring the increase in adsorption of 440 millimicrons of an acetone-hexane extract of egg yolks from eggs produced by hens fed cottonseed meals over that observed from the extract of yolks of control eggs. It was established that the AGU method is of little value in grading cottonseed meals for laying rations.

The second phase was concerned with the elimination from cottonseed meal of the constituent responsible for the production of the brown coloration in the yolks of stored shell eggs. It is apparent, from comprehensive quantitative studies, that the cottonseed meal constituent responsible for the coloration is not measured by the analytical methods for free or total gossypol. The suggestion obtained from the results of the research is that some gossypol derivative, not measured by the conventional methods, is involved. It is presumed that gossypol is liberated from this derivative in the digestive tract of the hen. The brown pigment present in the yolks is a pH indicator, and discoloration of the yolks occurs when the pH of the yolk increases during storage of the shell eggs.

A third phase of the research was concerned with the problem of pink whites in stored shell eggs from hens fed cottonseed meals. The incidence of pink whites is directly proportional to the concentration of Halphen acid in the meals fed. Halphen acid in cottonseed meals is heat labile, and the quantities present in meal do not follow the oil content of the meals.

The research carried on by Mr. Verberg was concerned with the isolation and identification of the problem pigment in off-colored cottonseed oils. This pigment (or pigments) is a derivative of gossypol. It is alkali fast and is not removed from crude cottonseed oil by the conventional process of alkali refining. The problem pigment is also resistant to the bleaching action of Fullers earth and bentonite clays. The problem pigment gives the off-colored oils a red color, and such oils are discriminated against in the trade. More than 25% of the cottonseed meals produced in the United States are affected. The problem pigment was separated from oil by chromatographic means, and is being purified for chemical characterization.

Tung Research and Development League

The Tung Research and Development League maintained a fellowship in the Industrial Crops Laboratory during the calendar year 1959. The fellowship is occupied by Mr. Lucien L. Hopper, Jr., on a parttime basis. He is an expert in protective coatings formulations and operates his own small plant for vehicle production. He spends approximately one day at the Laboratory every two weeks, serving primarily as a consultant in the development of improved protective coatings from tung oil. During the calendar year 1959 his advice has been most helpful in research on the development of fire retardant coatings from domestic vegetable oils, and research on the

development of a water-soluble vehicle based on tung oil in the Industrial Crops Laboratory. He has also given advice to the Engineering and Development Laboratory in development research on a tung oil-zinc resinate-Pentalyn G vehicle.

Mr. Hopper has been coauthor of two publications and one patent which were issued in 1959: "Simultaneous Alcoholysis and Gasproofing of Tung Oil. Production of an Isophthalic Tung Oil Alkyd as a Potential House Paint Vehicle," "Surface Coating Vehicles with Built-in Fungistats," and U. S. Patent 2,884,330, issued April 28, 1959, "Paint Vehicle with Fungicidal Properties."

The National Confectioners' Association

The National Confectioners' Association has maintained a fellowship which has been occupied by Dr. Werner Landmann. This fellowship originally was created for the purpose of securing basis information on those physical properties which affect the performance of confectionery fats. Subsequently, the objectives have been extended to include the preparation of new and improved confectionery fats from domestic oils.

Concerning the obtaining of information on physical properties, Dr. Landmann has continued the investigation of the factors influencing the permeability of confectionery fats and coatings to water vapor. The interplay of these factors is more complicated and their influence much greater than heretofore suspected. For example, when cocoa butter was heated to just below 96° F., quickly solidified in film form, and stored at room temperature for several days before testing, it was only 1/6 to 1/16 as permeable as films prepared in a similar manner except that the initial melting of the fat was carried out at about 90° F.

Dr. Landmann prepared a highly purified sample of 2-palmito-oleostearin, which occurs in cocoa butter-like fats made from domestic oils and which is an isomer of the major component of cocoa butter. The 2-palmito-oleostearin was found to have three melting points: 104.5, 99, and 75° F. A dilatometric investigation of the glyceride is underway.

Dr. Landmann assisted in the pilot plant preparation of three batches of cocoa butter-like fat. Each batch was prepared by the interesterification of completely hydrogenated cottonseed oil and a triolein product or domestic olive oil. The reaction product was fractionated by partial crystallization from an acetone solution to obtain a cocoa butter-like fraction consisting essentially of oleodisaturated glycerides. Each of the batches from the pilot plant preparation was characterized in the laboratory and evaluated by confectioners. The best batch almost duplicated the melting characteristics of cocoa butter over the temperature range of 32 to 86° F. However, each of the three fats started to solidify at too high a temperature, and the amount of contraction on solidification was deemed insufficient. It is believed that the faults can be overcome, and Dr. Landmann is helping in further investigations of fats of this type.

Dr. Landmann performed most of the laboratory work involved in the preparation and characterization of an experimental slab and gloss oil consisting essentially of a mixture of dibutyropalmitins and dibutyrostearins. According to data obtained so far, this oil is a good replacement for white mineral oil, the use of which had to be discontinued on March 6, 1960. Further tests are underway.

Canvas Products Association's International Research Fellow

The Canvas Products Association International fellow has continued to do cooperative research with SURDD personnel. This research has been directed to develop new and improved treatments to extend the useful life of cotton fabrics for outdoor uses.

Preliminary studies have been carried out on the application of coatings to canvas. Emulsion applications have included acrylic, polyvinyl acetate, polyvinyl chloride, and polyethylene resins and blends thereof. These experiments were carried out to achieve familiarity with the applications for more efficient use in subsequent calendering and exposure studies. In addition to the emulsion studies, several plastisol formulations of polyvinyl chloride were also investigated. Stabilizers were included in the formulations.

Investigations were initiated on blending of light stable pigments to achieve more weather resistant blends in shades acceptable to the awning trade.

Work was continued on exposure of vat-dyed acetylated cotton sewing thread vs. cotton and ramie. The treated thread has proven much superior to the two untreated materials.

4. PUBLIC RELATIONS

a. Information

Information is one of the means by which the activities and accomplishments of the Southern Division are reported to the public, to industry, and to the Congress. Good research produces valuable and useful results. Good information helps to make these research results available to people who can put them to work, to create a demand for further research and to make possible a continuation and expansion of the Division activities.

(1) Press Releases

U.S.D.A. News Releases Pertaining to Southern Utilization Research and Development Division

Title of Release	USDA Number	Month Released
1. USDA Research Puts Rice Oil Industry on Firm Footing	109-59	January
2. Improved Wash-Wear Finish for Cotton	182-59	January
3. USDA Research Uncovers Improved Wash-Wear Finish for Cotton	193-59	February
4. USDA-Developed Cotton Opener-Cleaner Gaining Acceptance by Industry	201-59	February
5. USDA Oilseed and Peanut Committee Sees Need for Weed Control Research	369-59	February
6. Emphasis on Basic Research Needed, USDA Vegetable Advisory Committee Says	471-59	February
7. Granular Card is New Development of USDA Cotton Utilization Research	609-59	March
8. Rot-Resistant Cotton Fabrics	997-59	April
9. USDA Develops Rot-Resistant Cotton for Outdoor Use	1001-59	April
10. 174 USDA Employees Honored Today for Achievements and Long Service	1291-59	May
11. Improved Processing Widens Cottonseed Markets, Says USDA	1627-59	June

U.S.D.A. New Releases (Continued)

<u>Title of Release</u>	<u>USDA Number</u>	<u>Month Released</u>
12. Castor Oil Will Find Extensive Use in Plastic Foams, USDA Believes	1918-59	July
13. USDA Scientists Find New Way to Measure Yarn Crimp in Cotton Fabric	2082-59	July
14. New USDA Process Makes Possible Wide Use of Tung Oil in Paints, Varnishes	2029-59	August
15. New Cottonseed Belt Cleaning Unit Developed by USDA Engineers	2821-59	October
16. Cotton Cleaning Device for Cotton Mills Developed by USDA Utilization Engineers	3269-59	November
17. New USDA-Developed Machine Helps Clean Lint Cotton for Textiles	3503-59	December

SURDD General Press Releases

Title of Release	Month Released	Number Issued
1. Dr. Goldblatt Transfers to Western Division	January	24
2. USDA Technical Analyst to Discuss Patents before AIC	January	9
3. USDA Advisory Committee to Inspect Research on Oilseeds and Peanuts	January	8
4. USDA Tung Oil Paints to be Tested by University of Florida	January	79
5. USDA and Industry Review Current Research on Cottonseed Meal	January	66
6. USDA Advisory Committee to Examine Vegetable Research Program	January	11
7. William B. Carney Receives Cash Award for Sustained Above-Average Performance of Duties	February	2
8. Dr. John G. Collingwood, Unilever, Ltd., London, Interested in SU Research on Seed Proteins	February	9
9. Luigi Burgi and Sandro Roda, Milan, Italy, Visitors at SU	February	6
10. R. T. O'Connor and Dr. Evald Skau Receive Joint Award	February	1
11. USDA Seeks Cotton Fiber Measuring Device	February	60
12. Research on Cottonseed Pigments to be Reviewed	February	71
13. Industry Research Committee Visits Pine Gum Research Facilities	February	77
14. ARS Scientists Receive Glycerine Award	February	2
15. Prominent New Orleans Scientist to Address Chemists	February	6
16. Edward L. Patton Interviewed by WDSU-TV's Bern Rotman	March	1

SURDD General Press Releases (Continued)

Title of Release	Month Released	Number Issued
17. Cottonseed Processing Clinic Told Current Research	March	8
18. Federal, State Agriculture Scientists to Confer at Southern Regional Research Laboratory	March	89
19. Textile Leaders to Meet at Southern Regional Research Laboratory	March	70
20. Textile Educators to Meet at Southern Regional Research Laboratory	March	71
21. Gossypol Important to Cottonseed Industry	March	71
22. Dr. Roger Adams, University of Illinois, Discusses Structure of Gossypol with SU Staff Members	April	6
23. Dr. Roger Adams, University of Illinois, Attends Gossypol Conference	April	4
24. Dr. Roger Adams Presented Key to City	April	5
25. USDA Research Engineer to Attend International Textile Meeting	April	50
26. Advisors to Review USDA Cotton Processing Research	April	70
27. Wash-Wear Research Told at USDA Meeting	April	89
28. Wash-Wear Cottons Topic of USDA Conference	April	89
29. New Processing Methods Share Spotlight with Wash-Wear Improvements When Textile Educators Meet	April	70
30. Southern Regional Research Laboratory to Host ACS Meeting	April	6
31. USDA Scientist Awarded Herty Medal	April	51
32. Industry Representatives Confer with USDA Scientists	May	70

SURDD General Press Releases (Continued)

Title of Release	Month Released	Number Issued
33. New Orleans Scientists Honored for Benefits to Cotton Industry	May	81
34. Sir John Dodd, England, Inspects SU-Developed Textile Mill Equipment	May	3
35. Outstanding Performance Ratings Awarded Lee Capbern, Grace W. Soignet, Alice B. Gremillion	June	3
36. Cotton Fabrics for Special Uses Sought by USDA	July	70
37. Cotton Mechanical Laboratory Collaborators Discuss Mechanical Processing of Cotton	July	7
38. Citrus Processing Conference Set for Winter Haven, Florida, Sept. 17	July	47
39. "Stretch" Yarns from Cotton Sought Under USDA Contract	July	57
40. Dr. Jacinto Rojas-Dominguez, Tampico, Mexico, and Miss Florence Rose, Meals for Millions, Seek Information on Cottonseed Flour from SU Staff Members	August	8
41. Ninth Citrus Processing Conference Set for Sept. 17 in Winter Haven, Florida	August	46
42. USDA-Developed Continuous Pine Gum Still Installed by Industry	August	24
43. Processing Characteristics of New Strains of Canning Tomatoes for Valley Evaluated	September	30
44. Mr. J. T. Marsh, England, Discusses Textile Finishing Research with SURDD Staff	September	10
45. USDA Scientist to Help Israel Improve Diet	September	42
46. Task Group Formed to Expedite USDA Wash-Wear Research	September	62
47. U. S. Department of Agriculture to Open at Public Library	October	95

SURDD General Press Releases (Continued)

Title of Release	Month Released	Number Issued
48. Dr. Tryggve Eeg-Olafson and Birger Norinder, Swedish Visitors, Inspect New SU-Developed Textile Mill Equipment	October	8
49. Dr. Hans Markert and Dr. H. J. Heinz, Dusseldorf, Germany, Interested in Vegetable Oil Research at SU	October	8
50. A. Brixhe, Brussels, Belgium, Views ARS Differentiator at SU	October	8
51. Ninth Cottonseed Processing Clinic Set for February 15-16	December	45 (100 by MVOPA)
52. Cotton Chemical Collaborators Meet	December	10
53. Cotton Chemical Collaborators Review Current Cotton Research	December	10
54. Cotton Chemical Collaborators Discuss Wash-Wear at Southern Regional Research Laboratory	December	9
55. Cotton Chemical Collaborators Discuss Wash-Wear at Southern Regional Research Laboratory	December	10
56. Julio Amador from Mexico Visits SU	December	7
57. Dr. Antonio Pandolfi, Porto Alegre, Brazil, Discusses Filtration-Extraction with Members of SU Staff	December	7
58. Tommie J. Newman Retires	December	1
59. Dr. A. J. Farmworth, Gaelong, Australia, Visits SU	December	8
60. Drs. Ballard and Bamford, Courtaulds, Maidenhead, England, Interested in SU Wash-Wear Research	December	6
Total		1175

(Includes 100 issued by MVOPA)

In addition to our press releases we have had the opportunity to present the results of our research to the public through TV and radio programs.

<u>Broadcasting Station</u>	<u>Date</u>	<u>Participant</u>	<u>Topic</u>
1. WDSU-TV	Jan. 8	Frank D. Barlow, Jr. (AMS)	How Market Potentials Affect Cotton Research
2. WDSU-TV	Jan. 21	George L. Drake, Jr.	Uses for Water-Soluble Cotton
3. Nationwide Radio Tape	Jan. 28	George L. Drake, Jr.	APD Wash-and-Wear Finish
4. WDSU-TV	Feb. 5	Frank C. Pack	How Patents Protect Govern- ment Developments
5. WDSU-TV	Feb. 19	Kenneth M. Decossas	The Men Behind the Question: How Much Will it Cost?
6. WDSU-TV	Mar. 6	Edward L. Patton	Government, Industry Co- operate in Solving Canvas Products Problems
7. WDSU-TV	Mar. 20	Emory Coll	Science Serves the Sugar Industry
8. WDSU-TV	Mar. 23	Film of tour by John McDonogh High School in connection with the program "Know Your Schools"	
9. WDSU-TV	Apr. 2	Ralph A. Rusca	New Textile Equipment - The Granular Card
10. WDSU-TV	Apr. 16	James J. Spadaro	Chemical Engineer - The Middle Man in Research
11. Raleigh, N.C. TV Stations	Apr. 20	William J. Martin	New Textile Equipment - The Granular Card
12. Raleigh, N.C. Radio Stations	Apr. 20	William J. Martin	New Textile Equipment - The Granular Card
13. WDSU-TV	Apr. 30	J. David Reid	The Role of Research in Wash and Wear
14. Nationwide Radio Tape	May 11	C. H. Fisher	Utilization Research on Cotton

15. WDSU-TV	May 14	Austin C. Mason	Glassblower Collaborates with Scientists
16. WDSU-TV	May 26	Lida Shelton, Margaret Soniat, Russell Kullman	Cotton Time is Any Old Time
17. WDSU-TV	May 28	Alva Cucullu	Analytical Methods in Micro-Chemical Analysis
18. WDSU-TV	June 12	Mary L. Rollins	Microscopy Trouble Shoots for Future Fabrics
19. WDSU-TV	June 25	C. J. Conner	A Better Way to Keep Dry -- Under Cotton
20. WDSU-TV	Aug. 6	Ruth Mayne	Built-In Fungistats for Surface Coatings
21. WDSU-TV	Aug. 20	Elmo L. Patton	Tung Oil Plus Research Equals Foolproof Formula
22. Nationwide Radio Tape	Aug. 25	James J. Spadaro	Tung Oil Resin Varnish Vehicle
23. WDSU-TV	Sept. 10	Raiford L. Holmes	By-Products of Tung
24. WDSU-TV	Sept. 24	James N. Grant	Research to Prevent Quality Damage to Cotton in Ginning
25. WDSU-TV	Oct. 8	John Frick, Jr.	Wash-Wear, Boon to the Cotton Industry
26. WDSU-TV	Oct. 22	Esmond J. Keating	The Stretch Weave Gauze Diaper (Something New Under the Sun)
27. WDSU-TV	Oct. 27	C. H. Fisher	ARS Utilization Research Exhibit
28. WWL-TV	Dec. 1	George L. Drake, Jr.	Recent Developments in Cotton Research
29. WWL-TV	Dec. 30	J. David Reid	Cotton Wash-Wear: Answer to a Housewife's Prayer

(2) Papers and Patents

An analysis of Southern Utilization Research and Development Division publications for calendar year 1959 showed that:

- (a) The available technical man-years, estimated GS-5 and above, was 257.0
- (b) The total number of publications (articles and patents) was 193
- (c) The average man-years per publication was 1.33

Tabulation of publications by research laboratories is given in the following table.

<u>Laboratories</u>	<u>Manuscripts 1/</u>		<u>Patents</u>	<u>Total</u>
	<u>SURDD</u>	<u>Contract</u>		
Cotton Chemical	26	2	15	43
Cotton Mechanical	14	3	1	18
Director's Office	17	0	0	17
Engineering and Development	27	0	3	30
Food Crops 2/	17	0	0	17
Instrumentation and Analysis	5	0	0	5
Industrial Crops 2/	45	2	6	53
Plant Fibers	6	1	0	7
Seed Protein	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
	160	8	25	193

Field Laboratories

Naval Stores Station (Olustee, Florida)	11	0	2	13
U. S. Citrus Products Station (Winter Haven, Florida)	3	0	0	3
U. S. Fermentation Laboratory (Raleigh, North Carolina)	0	0	0	0
U. S. Fruit and Vegetable Products Laboratory (Weslaco, Texas)	5	0	0	5
U. S. Sugarcane Products Laboratory (Houma, Louisiana)	0	0	0	0

1/ Approved but not necessarily published.

2/ Includes "Field Laboratories".

PATENTS ISSUED AND APPLIED FOR DURING CY 1959

SURDD Patents Issued in CY 1959

	<u>Patent No.</u>
1. "Fiber Cleaner" by Mayer Mayer, Jr., and James I. Kotter. Issued January 13, 1959.	2,867,850
2. "Flame Resistant Organic Textiles and Method of Production" by Leon H. Chance, George L. Drake, Jr., and Wilson A. Reeves. Issued January 20, 1959.	2,870,042
3. "Detoxifying Cottonseed Meal" by William H. King. Issued February 10, 1959.	2,873,190
4. "Preparation of Cottonseed Meal Suitable for Unrestricted Use in Laying Hen Diets" by William H. King, Aaron M. Altschul, Joseph M. Dechary, and Vernon L. Frampton. Issued February 10, 1959.	2,873,191
5. "Process for Making Fatty Acid Diglyceride, Diesters of Dibasic Acids" by Reuben O. Feuge, and Truman L. Ward. Issued February 17, 1959.	2,874,175
6. "Carding Apparatus" by August L. Miller, Roger S. Brown, And Ralph A. Rusca. Issued March 31, 1959.	2,879,549
7. "Heat Exchanger" by Lucien H. Greathouse, Burns Ashby Smith, Helen M. Robinson, and Chester H. Haydel. Issued April 14, 1959.	2,882,022
8. "Paint Vehicle with Fungicidal Properties" by Leo A. Goldblatt, and Lucien L. Hopper, Jr. Issued April 28, 1959	2,884,330
9. "Phosphorus Containing Aziridiny-Alcohol Polymers and Flame Resistant Organic Textiles" by Leon H. Chance, George L. Drake, and Wilson A. Reeves. Issued May 12, 1959.	2,886,538
10. "Aziridine-Methylolphosphorus Polymers and Flame Resistant Organic Textiles" by George L. Drake, Jr., Wilson A. Reeves, and Leon H. Chance. Issued May 12, 1959.	2,886,539
11. "Phosphorus Containing Aziridiny-Amine Polymers and Flame Resistant Organic Textiles" by Wilson A. Reeves, Leon H. Chance, and George L. Drake, Jr. Issued June 2, 1959.	2,889,289
12. "Separation of Fumaropimaric Acid from Fumaric-Modified Rosin Products" by Noah J. Halbrook, and Ray V. Lawrence. Issued June 2, 1959.	2,889,362

<u>SURDD Patents Issued in CY 1959 (continued)</u>	<u>Patent No.</u>
13. "Flame Resistant Organic Textiles and Method of Production" by Leon H. Chance, George L. Drake, Jr., and Wilson A. Reeves. Issued June 23, 1959.	2,891,877
14. "Composition Comprising Nitrilo Methylol-Phosphorus-Polymer and Organic Textiles Flame-Proofed Therewith" by Wilson A. Reeves, and John D. Guthrie. Issued June 30, 1959.	2,892,803
15. "Self-Feeding and Self-Dooffing Opener-Cleaner for Textile Fibers" by Ralph A. Rusca, and Ray C. Young. Issued July 7, 1959.	2,893,064
16. "Preparation of Oxygenated Resin Acid Derivatives" by Richard N. Moore, and Ray V. Lawrence. Issued August 11, 1959.	2,889,463
17. "Polymers Made From 1-Aziridiny1 Phosphene Oxides and Sulfides and Flame Resistant Organic Textiles" by Leon H. Chance, George L. Drake, Jr., and Wilson A. Reeves. Issued August 25, 1959.	2,901,444
18. "Flame- and Crease-Resistant Textiles from Aziridiny1 Carboxyalkylcellulose" by Wilson A. Reeves, John D. Guthrie, and George L. Drake, Jr. Issued September 29, 1959.	2,906,592
19. "Flame Resistant Organic Textiles and Method of Production" by George L. Drake, Jr., Wilson A. Reeves, and Leon H. Chance. Issued November 3, 1959.	2,911,325
20. "Aziridiny1-Phenolic Polymers" by Wilson A. Reeves, John D. Guthrie, and Leon H. Chance. Issued November 10, 1959.	2,912,412
21. "Phosphorus Containing Polyesters and Method for Their Production" by Wilson A. Reeves, and John D. Guthrie. Issued November 17, 1959.	2,913,436
22. "Aziridiny1-Carboxylic Acid Esters" by Wilson A. Reeves, and George L. Drake, Jr. Issued December 1, 1959.	2,915,480
23. "Methylol-Phosphorus Modified Epoxy Resins" by Austin L. Bullock, Wilson A. Reeves, and John D. Guthrie. Issued December 8, 1959.	2,916,473

SURDD Patents Issued in CY 1959 (continued)

Patent No.

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| 24. | "Process for the Production of Cellulosic Textiles with Permanent Creases and Improved Soil and Abrasion Resistance" by Robert M. Reinhardt, Laurence W. Mazzeno, Jr., and John D. Reid. Issued December 15, 1959. | 2,917,412 |
| 25. | "Reaction Products of 1-Aziridiny1 Compounds with Compounds Containing Active Methylene Groups" by Wilson A. Reeves, Leon H. Chance, and George L. Drake, Jr. Issued December 15, 1959. | 2,917,492 |

SURDD Patent Applications Filed in CY 1959

Patent Case No.

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| 1. | "Process for the Methylation of Vegetable Oil Soap-stock" by Paul H. Eaves, and James J. Spadaro. Filed January 14, 1959. | 3587 |
| 2. | "Nitrogen-Containing Derivatives of Ricinoleic Acid" by Harold P. Dupuy, Leo A. Goldblatt and Frank C. Magne. Filed January 13, 1959. | 3588 |
| 3. | "Vinyl Pinonate, Polymeric Derivatives Thereof, and Method for Producing the Same" by Glen W. Hedrick. Filed January 6, 1959. | 3589 |
| 4. | "Cocoa Butter-Like Fats" by Reuben O. Feuge and Norman V. Lovegren. Filed January 19, 1959. | 3591 |
| 5. | "Method and Apparatus for Measuring Absolute Softness of Yarns" by Eavld L. Skau. Filed January 22, 1959. | 3593 |
| 6. | "Amino Acid Containing a Cyclobutane Ring and Method of Preparation" by Glen W. Hedrick (division of PC 3309)* Filed January 27, 1959. | 3594 |
| 7. | "Amino Acid Containing a Cyclobutane Ring and Method of Preparation" by Glen W. Hedrick (division of PC 3309)* Filed January 27, 1959. | 3595 |
| 8. | "Amino Acid Containing a Cyclobutane Ring and Method of Preparation" by Glen W. Hedrick (division of PC 3309)* Filed January 27, 1959. | 3596 |

* Division of parent application

SURID Patent Applications Filed in CY 1959 (continued)

Patent Case No.

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| 9. | "Production of Strong, Rot-Resistant Benzyl Cellulose Fibers" by Elias Klein, David J. Stanonis, and Pieter Harbrink. Filed March 13, 1959. | 3608 |
| 10. | "Improved Processes for Treating Cellulosic Textiles with Acid Colloids of Methylolmelamine" by Wilson A. Reeves, and Wilfred N. Berard. Filed March 13, 1959. | 3611 |
| 11. | "Wrinkle Resistance Treatment for Cellulosic Textile Fabrics" by Robert M. Reinhardt, John G. Frick, Jr., Richard L. Arceneaux, and John D. Reid. Filed March 23, 1959. | 3614 |
| 12. | "Process for Simultaneous Alcoholysis and Gasproofing of Tung Oil, and Production of Alkyd Resins Therefrom" by Leo A. Goldblatt, Lucien L. Hopper, Jr., and Eric T. Rayner. Filed April 10, 1959. | 3619 |
| 13. | "Wrinkle Resistance Treatment for Cellulosic Textile Materials" by John G. Frick, Jr. Filed April 2, 1959. | 3620 |
| 14. | "Silane-Silicone Alloy Textile Finish and Process of Preparation" by Wilson A. Reeves, Charles J. Conner, and Leon H. Chance. Filed May 7, 1959. | 3623 |
| 15. | "Process for Recovery of Gossypol from Cottonseed Gum" by Walter A. Pons, Jr., Joseph Pominski, and William H. King. Filed July 6, 1959. | 3639 |
| 16. | "Improved Process for Production of Perfluoralkanlyl Esters of Cellulose" by Ralph J. Berni and Thomas F. Fagley. Filed July 6, 1959. | 3643 |
| 17. | "Perfluoralkoxy-Substituted Propyl Ethers of Cellulose" by Ralph J. Berni, John B. McKelvey, and Ruth R. Benerito. Filed July 6, 1959. | 3644 |
| 18. | "Mercerizing Compositions Containing Pinonic Acid" by Glen W. Hedrick. Filed June 30, 1959. | 3645 |
| 19. | "Scrubbing Machine for On-Location Cleaning of Pile-Type Floor Covering" by Esmond J. Keating, Albert S. Cooper, Jr., and Albert M. Walker. Filed July 24, 1959. | 3647 |
| 20. | "Plasticized Resin Compositions Exhibiting Light Stability" by William G. Bickford and Sara P. Fore. Filed August 27, 1959. | 3661 |

SURDD Patent Applications Filed in CY 1959 (continued)

Patent Case No.

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| 21. | "Polyvinyl Chloride Compositions Plasticized with Chlorinated Tung Oil" by R. S. McKinney, Frank C. Magne, and Leo A. Goldblatt. Filed September 23, 1959. | 3668 |
| 22. | "Urethane Foams Prepared from Elaidinized Castor Oil" by David A. Yeadon and Leo A. Goldblatt. Filed September 25, 1959. | 3669 |
| 23. | "Production of Cottonseed Meal of Improved Quality" by William H. King and Vernon L. Frampton. Filed September 29, 1959. | 3677 |
| 24. | "Resin Treatment for Textiles to Impart Wash-and-Wear Properties and Durable Creases" by J. David Reid, Terrence Fenner, Robert M. Reinhardt, and Russell M. H. Kullman. Filed October 28, 1959. | 3682 |

SURDD Research Proposals Submitted for Review During CY 1959

Commodity	Joint Authorship	CC	CM	ED	FC	IA	IC	PF	SP	Anon.	Total
Cotton	3 ^{1/}	27	15	9		6		4		29	93
Cottonseed				2			8				10 ^{2/}
Naval Stores							1			1	2
Oilseeds		2		1			9			2	14
Vegetables					1			1			2
More than one Commodity						2				8	10
Total	3	29	15	12	1	8	18	5	--	40	131

1/ - Joint authorship proposals are: 1 - CC & IA
1 - CC & CM
1 - CC, ED & N.C.State

2/ - Two proposals listed under Oilseeds include cottonseed.

b. SURDD Conferences and Meetings

Conferences and meetings provide an invaluable opportunity for members of the Laboratory staff and representatives from other groups with mutual fields of interest to exchange ideas and information and discuss their current problems. A number are held at the Laboratory each year. Those conferences and meetings held during 1959 are listed below with the locations and numbers attending.

<u>Date 1959</u>	<u>Name of Meeting or Conference</u>	<u>Place</u>	<u>Number Attending</u>
Jan. 5	Preparation of Naval Stores Derivatives at Processing Plants	Olustee, Fla.	6
Jan. 14	Information on New and Improved Products for Market Survey to Introduce Products to Industry	Olustee, Fla.	6
Jan. 16	Informal Committee of National Paint, Varnish and Lacquer Association	Olustee, Fla.	27
Jan. 19-20	Fifth Conference on Processing as Related to Nutritive Quality of Cottonseed Meals	SRRL	38
Jan. 21	Progress of Research at Naval Stores Station	Olustee, Fla.	8
Jan. 28	Production of New Naval Stores Derivatives	Olustee, Fla.	6
Jan. 26-29	Oilseeds & Peanut Research and Marketing Advisory Committee	SRRL	34
Jan. 28-29	New Crops Conference	SRRL	36
Feb. 9	Problems with Brewer's Pitch for Lining Beer Kegs	Olustee, Fla.	4
Feb. 9-13	Vegetable Research & Marketing Advisory Committee	Weslaco, Tex.	20
Feb. 16-17	Eighth Cottonseed Processing Clinic	SRRL	74
Feb. 24	Possible Markets for Pinonic and Pinic Acid, Pinane Hydroperoxide and Maleopimaric Acid	Olustee, Fla.	4

Mar. 13	Resin Acid Composition and Methods of Analysis of Tall Oil Rosin	Olustee, Fla.	7
Mar. 18	Possible commercialization of Some Gum Naval Stores Products	Olustee, Fla.	7
Mar. 19-20	Gossypol Chemistry Conference	SRRL	35
Mar. 25	Meeting of Pine Gum Collaborators- Current Research	Olustee, Fla.	21
Mar. 27	Rice Drying Conference	SRRL	10
Mar. 30 & Apr. 3	Cotton Textile Machinery Developments	SRRL	61
Mar. 31- Apr. 2	Cotton Chemical Laboratory Collaborators' Conference	SRRL	16
Apr. 6-7	National Council for Textile Education	SRRL	8
Apr. 13-15	Southern Experiment Station Collaborators' Conference	SRRL	18
Apr. 17	American Chemical Society	SRRL	60
Apr. 21	A.S.T.M. Work and General Naval Stores Research	Olustee, Fla.	4
May 7-8	Cotton Mechanical Laboratory Collaborators' Conference	SRRL	15
May 19	Development of Analytical Procedure for Determination of Rosin and Its Derivatives in Paint Vehicles	Olustee, Fla.	4
May 11-15	PL 480 Review Panel	SRRL	7
June 2	Processing and Handling Pine Gum	Olustee, Fla.	4
June 17	Evaluation of Paper Size Prepared from Partially Neutralized Pine Gum	Olustee, Fla.	5

July 13	Investigation of Hydroboration of Some of the Terpenes, Their Availability and Price	Olustee, Fla.	7
July 31	Informal Conference on Cottonseed Flour-Corn Mixture	SRRL	10
Sept. 17	Ninth Citrus Processing Conference	Winter Haven, Fla.	110
Sept. 25	Naval Stores Production Problems	Olustee, Fla.	4
Oct. 6	Industry Research Advisory Panel	Weslaco, Tex.	11
Oct. 22	Florida Cannery Association Research Advisory Committee	Winter Haven, Fla.	14
Oct. 29-30	Cottonseed Utilization Panel	SRRL	18
Nov. 3	Naval Stores Processing Problems	Olustee, Fla.	5
Nov. 19	Information on Oxidation of Alpha- pinene and Production of Pinic and Pinonic Acid	Olustee, Fla.	5
Nov. 24	Naval Stores Research Program	Olustee, Fla.	5
Nov. 30- Dec. 1	Cotton Research Advisory Committee	SRRL	9
Dec. 16	Paper Size Evaluations	Olustee, Fla.	6

c. Departmental Advisory Committees

The Department of Agriculture's system of research advisory committees was formally established in 1946 with the passage of the Research and Marketing Act. These committees, including representatives of producers, industry, government, and science, assist in selecting and effectuating research and service programs. Each of these committees meets at least once a year for three or more days, considers in detail research progress made and makes recommendations for continuance, discontinuance, or expansion of current research, and for the initiation of new lines of work. This system serves not only to guide the Department into lines of research where answers are most needed but also serves to acquaint many important individuals outside of the Department with the efforts being made in government to solve problems that plague their segments of the nation's business.

CONTACTS WITH DEPARTMENT ADVISORY COMMITTEEMEN BY MEMBERS
OF THE SOUTHERN DIVISION, ARS.

Calendar Year 1959

<u>Name</u>	<u>Place of Contact</u>	<u>SURDD Representative</u>
<u>Citrus and Subtropical Fruit Research and Marketing Advisory Committee</u>		
Fifield, W. M. (Gainesville, Fla.)	Miami, Fla.	M. K. Veldhuis(twice) W. C. Scott T. J. Kew O. W. Bissett H. J. Gold (twice)
Walker, M. H. (Lake Wales, Fla.) Chandler, A. L. (Redlands, Calif.) Etchison, H. (McAllen, Tex.) Fadler, L. F. (Kansas) Fifield, W. M. (Gainesville, Fla.) Held, M. W. (Texas) Lesley, J. T. (Tampa, Fla.) Lombard, T. A. (Fillmore, Calif.) Twombly, P. S. (Fullerton, Calif.)	Washington, D. C.	M. K. Veldhuis
Chandler, A. L. (Redlands, Calif.) Etchison, H. (McAllen, Tex.) Fadler, L. F. (Kansas)	Chicago, Ill. Washington, D. C. Philadelphia, Pa.	V. H. McFarlane

Fifield, W. M. (Gainesville, Fla.)	Chicago, Ill.	V. H. McFarlane
Held, M. W. (Texas)	Washington, D. C.	
Lesley, J. F. (Tampa, Fla.)	Philadelphia, Pa.	
Lombard, T. A. (Fillmore, Calif.)		
Lussier, M.		
Twombly, P. S. (Fullerton, Calif.)		
Walker, M. H. (Lake Wales, Fla.)		
Walker, M. H. (Lake Wales, Fla.)	Miami, Fla.	M. K. Veldhuis H. J. Gold
Etchison, H. (McAllen, Tex.)	Weslaco, Tex.	V. H. McFarlane
Held, M. W. (Texas)		
Moore, L. H.		

Cotton & Cottonseed Research & Marketing Advisory Committee

Hazelton, A. L.	Harlingen, Tex.	E. F. Pollard V. L. Frampton
Murray, C. C. (Athens, Ga.)	Washington, D. C.	C. L. Hoffpauir
Baker, H. S. (Fresno, Calif.)		
Fleming, J. D. (Memphis, Tenn.)		
Hays, J. D. (Huntsville, Ala.)		
Todd, J. H. (Memphis, Tenn.)		
Smith, W.		
Landers, M. F. (El Paso, Tex.)		
Cortright, G. C. (Rolling Fork, Miss.)		
McCabe, W. G., Jr. (Greenville, S. C.)		
Kennedy, J. R. (Bakersfield, Calif.)		
Goedecke, O. (Hallettsville, Tex.)		
Lockett, A. L. (Vernon, Tex.)		
Mills, H. C.		
Hazleton, A. L.		

Food & Nutrition Research Advisory Committee

Robinson, H. E. (Chicago, Ill.)	Chicago, Ill.	R. O. Feuge T. H. Hopper
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Forest Research Advisory Committee

Langdale, H., Jr. (Valdosta, Ga.)	Atlanta, Ga. Olstee, Fla.	E. L. Patton R. A. Rusca
Backman, G. P. (Salt Lake City, Utah)	Portland, Oregon	R. V. Lawrence
Beale, J. A. (Madison, Wisc.)		
Bercaw, T. E. (Bogalusa, La.)		
Garratt, G. A. (New Haven, Conn.)		
Gordon, S. (Sacramento, Calif.)		
Heritage, C. C. (Tacoma, Wash.)		
Langdale, H., Jr. (Valdosta, Ga.)		
Lyman, P. D. (White River Junc., Vt.)		
Partain, L. E. (Philadelphia, Pa.)		
Wolff, O. J. (Rapid City, S.D.)		

Oilseeds & Peanut Research & Marketing Advisory Committee

Young, E. J. (Dawson, Ga.)	Albany, Ga.	F. G. Dollear
Scofield, F. (Washington, D. C.)	Biloxi, Miss.	R. J. Brysson
Ballard, M., Jr. (Lumberton, Miss.)	Edgewater Park, Miss.	P. H. Eaves F. G. Dollear

Potato Research & Marketing Advisory Committee

Gray, B. (Hastings, Fla.)	Miami, Fla.	H. J. Gold M. K. Veldhuis
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Rice Research & Marketing Advisory Committee

Lewis, R. D. (College Station, Tex.)	Biloxi, Miss.	C. H. Fisher E. L. Patton H. J. Deobald
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Blair, G. B. (Lake Charles, La.)	Biloxi, Miss.	H. J. Deobald E. L. Patton
Broussard, J. O. (Rayne, La.)	Biloxi, Miss.	H. J. Deobald E. L. Patton
Blair, G. B. (Lake Charles, La.)	Houston, Tex. Beaumont, Tex.	A. S. Roseman H. J. Deobald
Broussard, J. O. (Rayne, La.)	Rayne, La.	
Lewis, R. D. (College Station, Tex.)	Crowley and Lafayette, La. Houston, College Station, and Beaumont, Tex.	E. L. Patton
Hroussard, J. O. (Rayne, La.)		
Blair, G. B. (Lake Charles, La.)	Beltsville, Md. and Washington, D. C.	V. H. McFarlane
Carter, L. C. (Stuttgart, Ark.)		
Denison, P. E. (Iowa, La.)		
Duffy, W. J. (Woodland, Calif.)		
Leahy, M. E. (San Francisco, Calif.)		
Lewis, R. D. (College Station, Tex.)		

Vegetable Research & Marketing Advisory Committee

Tayloe, S. (Edcouch, Tex.)	Weslaco, Tex.	V. H. McFarlane
Wedgworth, G. H. (Belle Glade, Fla.)	Miami, Fla.	H. J. Gold (twice) M. K. Veldhuis (twice) W. C. Scott T. J. Kew O. W. Bissett

d. Collaborators

Collaborators of the Southern Division are experts in specific fields of work whose periodic technical advice concerning the approaches to the solution of various problems is needed for enlightened research operation. These collaborators provide advice, not in the area of the advisory committee, which concerns matters of economic and practical importance, but in the area of technical feasibility -- advice which the man at the bench needs to guide his laboratory operations. The combination of the advice of the advisory committees and that of the collaborators goes far toward determining the specific nature of research programs undertaken.

Collaborators of the Southern Division are grouped as follows:

1. Cotton Fiber Section collaborators
2. Cotton Chemical Processing Section collaborators
3. Cotton Mechanical Processing Section collaborators
4. Cotton collaborators
5. Oilseed collaborators
6. Experiment Station collaborators
7. Pine Gum and Vegetable Oil collaborators

e. Industry Groups

Informal Research Committees, appointed by Industry are interested in specific phases of the research program of the Southern Division and are of particular value in maintaining a close and effective liason with industry. These include:

1. Industrial Committee, American Sugar Cane League
2. Citrus Products Research Panel, Winter Haven Station
3. Industry Research Panel, Weslaco Station
4. Mississippi Valley Oilseed Processors' Association, Inc.
5. Research Committee, National Cottonseed Products Association
6. Research Committee, National Confectioners' Association
7. Gum Naval Stores Industry Group
8. Research Committee, National Pickle Packers' Association
9. Tung Industry Research Committee
10. Informal Protective Coatings Committee
11. Research Committee, National Peanut Council
12. Special conferences, called to review progress or to get opinions as to needed research. For example, in 1950, 1951, and 1953, conferences were held to bring together the different groups working toward improving the nutritive value of cottonseed meal. In February, 1953, a conference was held with representatives of the peanut industry with special reference to research to improve food utilization, and in March, 1953, with the rice oil industry to discuss their problems.
13. Research and Technical Committee, American Cotton Manufacturers' Institute, Inc. (The Cotton Chemical Laboratory and Cotton Mechanical Laboratory hold annual meetings of their collaborators to advise on research progress.)
14. Industry Liaison Committee of the Louisiana Sweetpotato Association
15. Vegetable Research Advisory Committee of the Florida Fruit and Vegetable Association

f. Visitors

For the calendar year 1959 the Southern Regional Research Laboratory had a total of 4378 visitors, broken down as follows:

Technical -----	1079
Sales and Service People -----	1497
Employment and Personnel Information -----	326
Tours -----	756
Library Visitors -----	93
Casual Visitors -----	411
Foreign Visitors -----	216
	<hr/> 4378

Tours. Many visitors came to the Southern Laboratory for the purpose of inspecting research facilities and learning something of the Southern Division's accomplishments. A staff of guides was appointed and trained to perform this service. During 1959 25 people served as guides on 34 different tours.

5. MISCELLANEOUS

a. Personnel

A breakdown of Southern Utilization Research and Development Division personnel for 1959 is given below:

Total (average)	<u>438</u>
Professional	<u>228</u>
Sub-Professional	37
Clerical, Adm. and Fiscal	77
Custodial Services and Wage Board	96

Number employed as of January 1, 1959	<u>440</u>
Number employed as of December 31, 1959	439
Number employed during 1959	38 ¹ / ₂
Number separated during 1959	40 ² / ₃
Number returned from LWOP & Mil. Furl. during 1959	20
Number placed on LWOP & Mil. Furl. during 1959	19
Number on LWOP & Mil. Furl. at end of 1959	19
Number promoted during 1959	62 ³ / ₄

1/ Includes: 10 Temporary Appointments

2/ Includes: 5 Resignations while in LWOP status; deducted from count when placed on LWOP

13 Temporary Appointments terminated

3/ Excludes: 12 Promotions made automatically under Student Trainee Program

TECHNICAL PERSONNEL BY RESEARCH SECTIONS
AND HIGHEST DEGREE OBTAINED 1/ 2/

December 31, 1959

Laboratory	Total GS Employees	With Degree		Highest Degree Obtained				Without	
		No.	%	B. S.	M. S.	Ph. D.		College Degree	%
		No.	%	No.	%	No.	%	No.	%
Office of the Director	10	10	100	4	40	3	30	0	0
Cotton Chemical	62	59	95	36	58	16	26	7	11
Plant Fibers Pioneering Research Group	9	8	88	4	44	0	0	4	44
Seed Protein Pioneering Research Group	9	9	100	4	44	0	0	5	56
Cotton Mechanical	26	24	92	15	58	9	34	0	0
Engineering & Development	41	29	71	25	61	2	5	2	5
Food Crops ^{3/}	31	31	100	9	30	11	35	11	35
Industrial Crops ^{4/}	66	64	97	37	56	16	24	11	17
Total for the Division	254	234	92	134	53	57	22	43	16
								20	8

1/ Does not include Administrative and Plant Management, Mechanical Service, Librarians, Wage Board, Stenographers, photographers, glassblower, student trainees, laborers or WAE employees.

2/ Includes employees on LWOP and Military Furlough.

3/ Includes employees of Houma, Raleigh, Winter Haven, and Weslaco.

4/ Includes employees of Naval Stores Station.

Technical Personnel by Research Sections and Highest Degree Obtained (continued)

Laboratory (Field Stations)	Total GS Employees	With Degree				Highest Degree Obtained				Without College Degree			
		No.	%	No.	%	B. S.	%	M. S.	%	Ph. D.	%	No.	%
Houma	2	2	100	1	50	1	50	0	0	0	0	0	0
Raleigh	2	2	100	0	0	1	50	1	50	0	0	0	0
Winter Haven	8	8	100	1	12	3	38	4	50	0	0	0	0
Weslaco	5	5	100	2	40	1	20	2	40	0	0	0	0
Naval Stores	16	14	88	6	38	3	19	5	31	2	12	2	12
Total for Field Stations 1/	33	31	94	10	30	9	27	12	36	2	6	2	6

1/ Included in total for the Division.

b. Travel

Some statistics on travel for 1959 are:

Total number of travelers (number of trips)	350
Total number of man-days spent in travel	1,800
Total SURDD expenditures for travel	\$ 64,000
% of SURDD expenditures spent on travel	1.7%

c. Lost-time Accidents Experienced in SURDD

1959 Calendar Year

Avg. No. Emo.	Total Man-Hours Worked	No. Lost-time Accidents	Frequency Rate	No. Days Lost	Severity Rate
450	911,831	8	8.77	168.1	0.18

Classification of lost-time accidents

<u>Nature</u>	<u>Number</u>	<u>No. of Days Lost</u>
Contact dermatitis	2	66.2
1st and 2nd degree burns	1	32.2
Chemical burns of eyes	1	11
Fracture of toes	1	32.5
Sprained foot	1	4
Strained backs	2	22
	<u>8</u>	<u>168.1</u>

d. Field Stations of SURDD

Name and Location	Date Opened	Commodities	No. Prof.		No. Nonprof. Employees	Funds P. A.
			Employees			
Naval Stores Station, Olustee, Fla.	1932	Pine Gum	16 ¹ / ₂	10		\$282,000
Sugarcane Products Laboratory, Houma, La.	1942	Sugarcane	2	0		19,500
U. S. Food Fermentation Laboratory, Raleigh, N. C.	1936	Cucumber Pickles	2	1		22,500
U. S. Citrus Products Laboratory, Winter Haven, Fla.	1931	Citrus Fruit	8	6		175,000
U. S. Fruit and Vegetable Products Laboratory, Weslaco, Tex.	1932	Grapefruit Tomatoes Southern Peas	5	4		66,700
						\$ 565,700 ² / ₆₄

1/ Includes one employee on LWOP

2/ Includes Washington and SURDD Administrative costs.

Table I. SU Publications^{1/} and Patents

	1939-1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Publications and Patents	28	34	71	85	69	105	95	101	102	92
Estimated Av. Number of Prof. Employees			74	136	150	172	181	216	207	255
Man-Years Per Publication			1.04	1.60	2.18	1.64	1.91	2.14	2.03	2.72

	1950-1951	1952	1953	1954	1955	1956	1957	1958	1959
Publications and Patents	103	150	145	154	138	169	186	154	193
Estimated Av. Number of Prof. Employees			238	215	206	211	259	262	247
Man-Years Per Publication			2.31	1.43	1.42	1.87	1.68	1.90	1.46

	1939-40 Total	1941-59 Total	Grand Total
Pubs. and Pats.	62	2311	2373
Man-Years	--	4031	--
Man-Years/Pub.	--	1.74	--

^{1/} Approved but not necessarily published as of December 31, 1959.

Table II. Approved SU Patents and Publications thru 1959
by Sections and/or Laboratories

Section and/or Laboratory	: 1939 :	: 1940 :	: 1941 :	: 1942 :	: 1943 :	: 1944 :	: 1945 :	: 1946 :	: 1947 :	: 1948 :	: 1949 :
ACR	: -- :	: -- :	: 34 :	: 48 :	: 34 :	: 33 :	: 22 :	: 24 :	: 28 :	: 25 :	: 10 :
A&P	: 0 :	: 0 :	: 0 :	: 1 :	: 4 :	: 10 :	: 15 :	: 10 :	: 10 :	: 7 :	: 12 :
CCP	: 0 :	: 1 :	: 2 :	: 1 :	: 1 :	: 3 :	: 6 :	: 8 :	: 7 :	: 6 :	: 3 :
CF	: 0 :	: 0 :	: 1 :	: 1 :	: 2 :	: 6 :	: 10 :	: 10 :	: 14 :	: 14 :	: 18 :
CMP	: 2 :	: 3 :	: 3 :	: 0 :	: 0 :	: 5 :	: 2 :	: 1 :	: 2 :	: 6 :	: 5 :
E&D	: 0 :	: 0 :	: 0 :	: 0 :	: 0 :	: 2 :	: 2 :	: 4 :	: 3 :	: 5 :	: 2 :
F&V	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
NS	: 26 :	: 29 :	: 31 :	: 29 :	: 18 :	: 18 :	: 11 :	: 19 :	: 13 :	: 6 :	: 8 :
O	: 0 :	: 1 :	: 0 :	: 5 :	: 10 :	: 27 :	: 26 :	: 23 :	: 24 :	: 22 :	: 17 :
Sugar Prod.	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
Sweetpotato Prod.	: 0 :	: 0 :	: 0 :	: - :	: - :	: 1 :	: 1 :	: 2 :	: 1 :	: 1 :	: - :
OD	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
Winter Haven	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
Raleigh	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
Weslaco	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
Houma	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
Bogalusa	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :
P&C	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 11 :
Yearly total	: 28 :	: 34 :	: 71 :	: 85 :	: 69 :	: 105 :	: 95 :	: 101 :	: 102 :	: 92 :	: 86 :
Cumulative total	: : 62 :	: 133 :	: 218 :	: 287 :	: 392 :	: 487 :	: 588 :	: 690 :	: 782 :	: 868 :	: : :
Man Yrs./Per Pub.	: : 1.87 :	: 1.60 :	: 2.18 :	: 1.64 :	: 1.91 :	: 2.14 :	: 2.03 :	: 2.72 :	: 2.77 :	: : :	: : :

Table II (cont'd). Approved SU Patents and Publications thru 1959 by Sections and/or Laboratories

Section and/or Laboratory	: 1950 :	: 1951 :	: 1952 :	: 1953 :	: 1954 :	: 1955 :	: 1956 :	: 1957 :	: 1958 :	: 1959 :	: Total :
ACR	: 16 :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 274 :
A&P	: 10 :	: 16 :	: 18 :	: 19 :	: 15 :	: 16 :	: 15 :	: 21 :	: - :	: - :	: 199 :
CCL	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 25 :	: 43 :	: 68 :
CCP	: 8 :	: 11 :	: 7 :	: 7 :	: 20 :	: 14 :	: 28 :	: 35 :	: - :	: - :	: 168 :
CF	: 12 :	: 26 :	: 28 :	: 12 :	: 26 :	: 13 :	: 15 :	: 13 :	: - :	: - :	: 221 :
CML	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 10 :	: 18 :	: 28 :
CMP	: 2 :	: 9 :	: 6 :	: 8 :	: 12 :	: 11 :	: 12 :	: 11 :	: - :	: - :	: 100 :
DO	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 15 :	: 17 :	: 32 :
E&D	: 10 :	: 11 :	: 16 :	: 8 :	: 12 :	: 12 :	: 19 :	: 13 :	: - :	: - :	: 119 :
EDL	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 21 :	: 30 :	: 51 :
FC	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 10 :	: 9 :	: 19 :
F&W	: - :	: - :	: 0 :	: 3 :	: 0 :	: 7 :	: 4 :	: 3 :	: - :	: - :	: 17 :
IA	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 12 :	: 5 :	: 17 :
IC	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 27 :	: 40 :	: 67 :
NS	: 12 :	: 13 :	: 8 :	: 5 :	: 6 :	: 10 :	: 11 :	: 21 :	: 12 :	: 13 :	: 319 :
O	: 17 :	: 26 :	: 39 :	: 29 :	: 29 :	: 23 :	: 37 :	: 35 :	: - :	: - :	: 390 :
Plant Fibers	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 7 :	: 7 :	: 14 :
Seed Protein	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 6 :	: 3 :	: 9 :
Sweetpotato Prod.	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 6 :
Sugar Prod.	: - :	: 7 :	: 8 :	: 5 :	: 11 :	: 12 :	: 8 :	: 8 :	: - :	: - :	: 59 :
OD	: 5 :	: 4 :	: 5 :	: 2 :	: 7 :	: 12 :	: 8 :	: 13 :	: - :	: - :	: 56 :
Winter Haven	: - :	: 5 :	: 8 :	: 6 :	: 3 :	: 7 :	: 4 :	: 3 :	: 1 :	: 3 :	: 40 :
Raleigh	: - :	: 3 :	: 2 :	: 2 :	: 4 :	: 1 :	: 0 :	: 5 :	: 3 :	: 0 :	: 20 :
Weslaco	: - :	: 0 :	: 0 :	: 3 :	: 4 :	: 0 :	: 5 :	: 2 :	: 4 :	: 5 :	: 23 :
Houma	: - :	: - :	: - :	: 1 :	: 1 :	: 0 :	: 3 :	: 1 :	: 0 :	: - :	: 6 :
Bogalusa	: - :	: - :	: - :	: 3 :	: 4 :	: 0 :	: 0 :	: 2 :	: 1 :	: - :	: 10 :
P&C	: 11 :	: 19 :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: - :	: 41 :
Yearly total	: 103 :	: 150 :	: 145 :	: 113 :	: 154 :	: 138 :	: 169 :	: 186 :	: 154 :	: 193 :	: 2373 :
Cumulative total	: 971 :	: 1121 :	: 1266 :	: 1379 :	: 1533 :	: 1671 :	: 1840 :	: 2026 :	: 2180 :	: 2373 :	:
Man Yrs./Per Pub.	: 2.31 :	: 1.43 :	: 1.42 :	: 1.87 :	: 1.68 :	: 1.90 :	: 1.53 :	: 1.38 :	: 1.66 :	: 1.33 :	:

Table III. Breakdown of approved manuscripts and patents by Sections and/or Laboratories 1953-1959.

Year	Section and/or Laboratory	Total Pub. & Pat.	Mss.	Contract Mss.	Pats.	Av. Prof.: Man-Yrs.	Man- Yrs. Per Available	Man- Yrs. Per Pub.	Est. 5-yr. Cost per Pub. 1/	Est. 2-yr. Av. Cost per Pub.
1959	DO	17	17	0	0	10	0.59	0.50		6,000
1958		15	15	0	0	6	0.40			
1957	OD	13	13	0	0	10	0.77	0.83	9,960	
1956		8	8	0	0	7	0.88			
1955		12	11	1	0	6	0.50			
1954		7	6	1	0	7	1.00			
1953		2	2	0	0	6	3.00			
1957	A&P	21	18	0	3	43	2.05	2.34	28,080	
1956		15	15	0	0	40	3.75			
1955		16	16	0	0	39	2.44			
1954		15	13	0	2	40	3.75			
1953		19	19	0	0	31	1.63			
1959	CCL	43	26	2	15	62	1.32	1.68		20,160
1958		25	18	1	6	57	2.28			
1957	CCP	35	25	3	7	42	1.20	1.64	19,680	
1956		28	18	2	8	33	1.18			
1955		14	13	0	1	35	2.50			
1954		20	7	9	4	38	1.90			
1953		7	5	0	2	23	3.28			

1/ Based on figure of \$12,000 per year per researcher furnished by JPM.

TABLE III (continued)

Year	Section and/or Laboratory	Total Pub. & Pat.	Mss.	Contract Mss.	Pats.	Av. Prof.: Man-Yrs. Available:	Man-Yrs. Per Pub.	Av. Years Per Pub.	Est. Cost per Pub.	Est. Cost per Pub.	Av. 2-yr. Cost per Pub.
1959	PF	7	6	1	0	9	1.29	1.28			15,360
1958		7	4	3	0	9	1.29				
1957	CF	13	11	1	1	32	2.46	1.92	22,040		
1956		15	13	1	1	24	1.60				
1955		13	8	0	5	33	2.54				
1954		26	23	1	2	32	1.23				
1953		12	11	0	1	31	2.58				
1959	CML	18	14	3	1	26	1.44	1.75			21,000
1958		10	10	0	0	23	2.30				
1957	CMP	11	7	1	3	25	2.27	2.43	29,160		
1956		12	9	0	3	24	2.00				
1955		11	7	2	2	27	2.45				
1954		12	8	3	1	39	3.25				
1953		8	7	0	1	17	2.13				
1959	EDL	30	27	0	3	41	1.37	1.55			18,600
1958		21	17	0	4	38	1.81				
1957	E&L	13	13	0	0	23	1.77	1.65	19,800		
1956		19	14	0	5	17	0.90				
1955		12	10	0	2	22	1.83				
1954		12	10	1	1	24	2.00				
1953		8	8	0	0	20	2.50				

TABLE III (continued)

Year	Section and/or Laboratory	Total Pub. & Pat.	Mss.	Contract Mss.	Pats.	Av. Prof.: Man-Yrs.	Man-Yrs. Per Available	Av. Man-Years Per Pub.	Est. 5-yr. Cost per Pub.	Est. 2-yr. Av. Cost per Pub.
1959	FCL	9	9	0	0	14	1.56	1.28		15,360
1958		10	9	1	0	13	1.08			
1957	F&V	3	3	0	0	3	1.00	0.94	11,280	
1956		4	4	0	0	1	0.25			
1955		7	7	0	0	4	0.57			
1954		0	0	0	0	5	---			
1953		3	3	0	0	4	1.33			
1959	IA	5	5	0	0	---	---			
1958		12	8	3	1	31	2.58			
1959	ICL	40	34	2	4	50	1.25	1.39		16,680
1958		27	20	1	6	43	1.59			
1957	OS	35	30	1	4	43	1.23	1.33	15,960	
1956		37	29	2	6	43	1.16			
1955		23	17	4	2	39	1.70			
1954		29	27	0	2	40	1.38			
1953		29	27	0	2	39	1.34			
1957	Sugar	8	6	1	1	7	0.88	0.86	10,320	
1956	Prod.	8	7	1	0	8	1.00			
1955		12	9	1	2	7	0.58			
1954		11	10	1	0	7	0.64			
1953		5	5	0	0	7	1.40			
1959	Seed	3	3	0	0	9	3.00	2.00		24,000
1958	Protein	6	6	0	0	9	1.50			

TABLE III (continued)

Year	Section and/or Laboratory	Total Pub.	Mss.	Contract Mss.	Pats.	Av. Prof.: Man-Yrs. Available	Man- Yrs. Per Pub.	Av. Man- Years Per Pub.	Est. Cost per Pub.	Est. Cost per Pub.
1958	Bogalusa	1	1	0	0	3	3.00	2.14	25,680	
1957		2	2	0	0	3	1.50			
1956		0	0	0	0	3	---			
1955		0	0	0	0	3	---			
1954		4	4	0	0	3	0.75			
1959	Houma	0	0	0	0	2	---	2.25	27,000	
1958		0	0	0	0	2	---			
1957		1	1	0	0	2	2.00			
1956		3	3	0	0	1	0.33			
1955		0	0	0	0	2	---			
1959	Raleigh	0	0	0	0	2	---	1.11	13,320	
1958		3	3	0	0	2	0.66			
1957		5	5	0	0	2	0.40			
1956		0	0	0	0	2	---			
1955		1	1	0	0	2	2.00			
1959	Winter Haven	3	3	0	0	8	2.67	2.56	30,720	
1958		1	1	0	0	10	10.00			
1957		3	3	0	0	10	3.33			
1956		4	4	0	0	8	2.00			
1955		7	7	0	0	10	1.43			

TABLE III (continued)

Year	Section and/or Laboratory	Total Pub. & Pat.	Mss.	Contract Mss.	Pats.	Av. Prof. Man-Yrs. Available	Man-Yrs. Per Pub.	Av. Man-Years Per Pub.	Est. 5-yr. Cost per Pub.	Est. 2-yr. Av. Cost per Pub.
1959	Weslaco	5	5	0	0	5	1.00	1.63	19,560	
1958		4	4	0	0	6	1.50			
1957		2	2	0	0	6	3.00			
1956		5	5	0	0	4	0.80			
1955		0	0	0	0	5	---			
1959	Naval	13	11	0	2	15	1.23	1.21	14,520	
1958	Store	12	12	0	0	14	1.17			
1957		21	18	3	0	15	0.71			
1956		11	7	0	4	16	1.45			
1955		10	9	1	0	20	2.00			
1959	SU(Total)	193	160	8	25	254	1.32	1.51	18,120	
1958		154	128	9	17	263	1.71			
1957		186	157	10	19	266	1.43			
1956		169	136	6	27	231	1.37			
1955		138	115	9	14	254	1.84			

Table IV. Summary of Publications and Patents of the four Regional Laboratories 1/

Laboratory	Last Half : 1951 :	1952 :	1953 :	1954 :	1955 :	1956 :	1957 :	1958 :	Total : Thru 1958 :
<u>Northern</u> Publications	51	91	57	54	62	56	66	93	530
Patents	13	24	26	11	19	18	12	11	134
<u>Eastern</u> Publications	65	99	97	85	81	93	104	97	721
Patents	18	20	9	7	14	19	20	8	115
<u>Western</u> Publications	53	127	115	129	107	116	127	124	898
Patents	11	27	11	12	13	12	21	16	123
<u>Southern</u> Publications	54	104	130	142	124	132	131	144	961
Patents	9	9	15	12	14	27	19	17	122

1/ Source: Lists of Publications and Patents.

Table V

Comparison of Production of Publications and
Patents in the four Regional Laboratories
1957 and 1958

Division	: Publications : and : Patents 1/	: Estimated : Man-Years : Available 2/3/4/	: : Man-Years : Per Publication
<u>NORTHERN</u>	:	:	:
1957	: 78	: 188	: 2.41
1958	: 104	: 214	: 2.06
<u>EASTERN</u>	:	:	:
1957	: 124	: 237	: 1.91
1958	: 105	: 222	: 2.11
<u>WESTERN</u>	:	:	:
1957	: 148	: 220	: 1.49
1958	: 140	: 219	: 1.56
<u>SOUTHERN</u>	:	:	:
1957	: 150	: 266	: 1.77
1958	: 161	: 263	: 1.63

1/ Source - Lists of Publications and Patents (Includes republications).

2/ Source - Staff project assignment charts.

3/ Does not include Administrative and Plant Management, Mechanical Service, Wage Board, Stenographers, Photographers, Glassblower, Scientific Illustrator, Student Trainees, Laborers or WAE employees.

4/ Includes employees on LWOP and Military Furlough.

